

See our super raised-panel jig! Details on page 34

Better Homes and Gardens®

# WOOD®

THE WORLD'S LEADING WOODWORKING MAGAZINE

AUGUST 1993 • ISSUE NO. 62  
Please display until August 11

**WHAT'S WHAT IN  
PLANER/MOLDERS**

Page 62

**TECHNIQUE**

**HOW TO MAKE  
RAISED PANELS**

**SUMMER  
SIZZLERS**

Cutting board

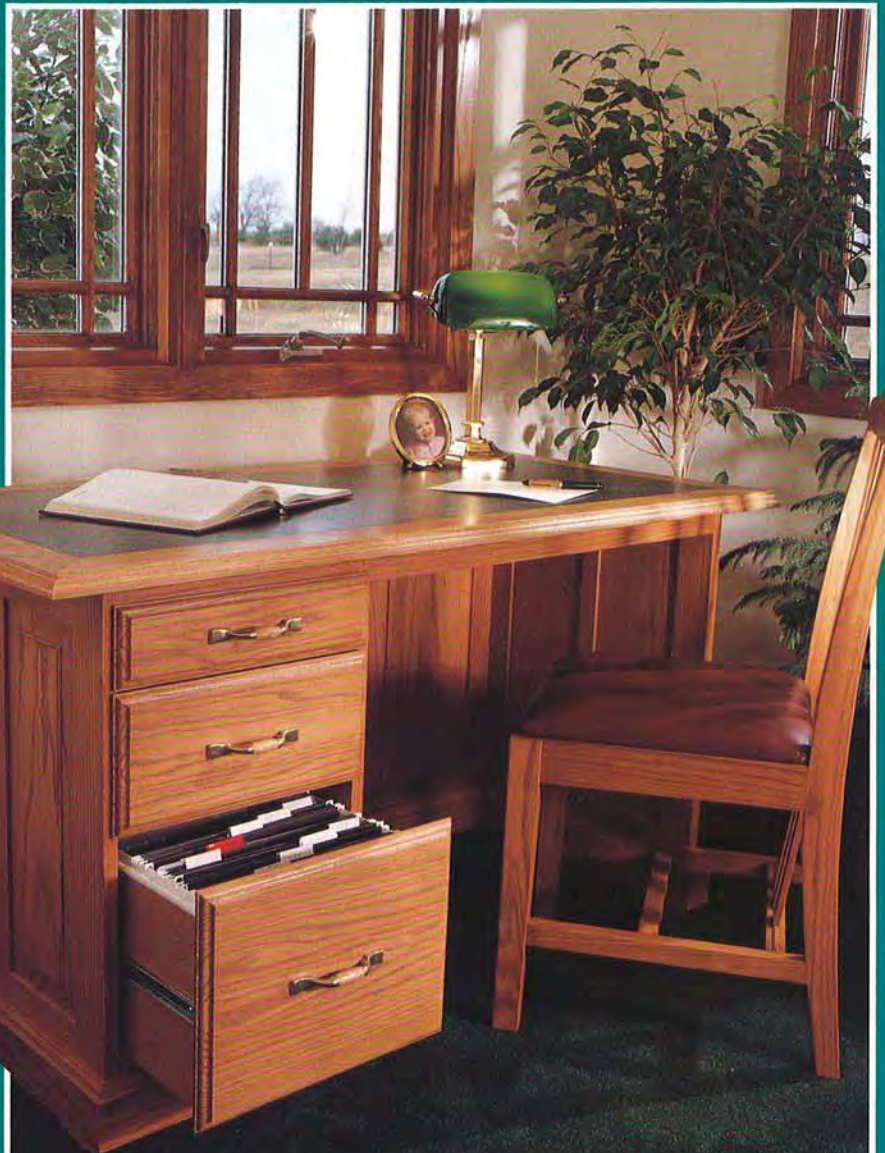
Dragon toy

Letter holder

Seafarer's clock

Wall lantern

Carved  
hound dogs



BIG ON STYLE  
**OAK-PANELED DESK**





IMPORTS, INC.

"IMPORTERS OF FINE MACHINERY"

# LET'S CLEAR THE AIR!

Newly aware of the dangers of airborne dust, woodworkers in shops of all sizes are investing in dust collection systems. You should, too. These four popular models from Grizzly are extremely efficient and very quiet. So, why take chances with your health? Take advantage of these unbelievably low prices and enjoy a safer woodworking environment.

**10<sup>th</sup>**  
**ANNIVERSARY**

**FREE**  
**4" X 10' HOSE**  
WITH PURCHASE OF  
A DUST COLLECTOR!



**MODEL G1032**  
• 1 H.P. • 2-BAG  
• 110 V • 78 LBS.  
**ONLY \$189<sup>95</sup>**



**MODEL G1028**  
• 1 H.P. • 2-BAG  
• 110 V • 125 LBS.  
**ONLY \$265<sup>00</sup>**



**MODEL G1029**  
• 2 H.P. • 2-BAG  
• 220 V • 135 LBS.  
**ONLY \$295<sup>00</sup>**

**MODEL G1030**  
• 3 H.P. • 4-BAG  
• 220 V • 170 LBS.  
**ONLY \$455<sup>00</sup>**

PRICES ABOVE ARE F.O.B. WILLIAMSPORT, PA OR BELLINGHAM, WA

## DUST COLLECTION ACCESSORIES



### DUST COLLECTION BASICS

This incisive new book skillfully guides the woodworker through all the steps necessary in the design and construction of an efficient central dust collection system and tells you what you need to know for easy installation.

**MODEL G2525**  
**ONLY \$5<sup>95</sup>**

### PLASTIC BLAST GATES

**MODEL G1842** 3" \$4.95  
**MODEL G1843** 4" \$5.95  
**MODEL G1844** 5" \$9.95  
**MODEL G1845** 6" \$10.95

### ALUMINUM BLAST GATES

**MODEL G1553** 3" \$10.95  
**MODEL G1571** 4" \$13.95

### HOSE CLAMPS

**MODEL G1795** 3" \$.79  
**MODEL G1796** 4" \$.89  
**MODEL G2484** 5" \$.99  
**MODEL G2485** 6" \$1.09

### WIRE HOSE CLAMPS

**MODEL G2972** 2" \$.79  
**MODEL G2973** 3" \$.89  
**MODEL G2974** 4" \$.99  
**MODEL G2975** 5" \$1.19  
**MODEL G2976** 6" \$1.39

### FLOOR SWEEP SYSTEM

**MODEL G1840** \$9.95

### T

**MODEL G1546** 3" \$4.50  
**MODEL G1547** 4" \$5.95

### Y

**MODEL G1551** 3" \$4.95  
**MODEL G1552** 4" \$6.95

### SPLICE

**MODEL G2481** 3" \$3.95  
**MODEL G2482** 4" \$4.95

### ELBOW — 90°

**MODEL G1544** 3" \$3.95  
**MODEL G1545** 4" \$4.95

### REDUCER

**MODEL G2483**  
Reducer 3" x 2" \$3.95  
**MODEL G1519**  
Reducer 4" x 3" \$3.95

### ADAPTOR

(for Shopvac® & Sears®)  
**MODEL G2551**  
Reducer 3" x 2-1/2" \$4.95

### 2-1/2" UNIVERSAL DUST PORT

**MODEL G2977**  
4" x 3-5/8" \$5.95

### UNIVERSAL DUST HOOD

**MODEL G1838**  
7" x 7" \$7.95

### JOINTER DUST HOOD

**MODEL G1839**  
6-1/2" x 6-1/2" \$7.95  
**MODEL G1841**  
7" x 8-1/2" \$8.95

### TABLE SAW DUST HOOD

**MODEL G1837**  
10" x 10" \$9.95  
**MODEL G2480**  
14" x 14" \$11.95

### FLEXIBLE HOSE

**MODEL G2867** 2" x 10' \$9.95  
**MODEL G1674** 3" x 10' \$11.95  
**MODEL G1678** 3" x 50' \$49.95  
**MODEL G1536** 4" x 10' \$14.95  
**MODEL G2868** 4" x 20' \$29.95

93-102

P.O. BOX 2069  
BELLINGHAM, WA 98227  
Customer Service: (206) 647-0801

ORDERS:  
**1-800-541-5537**

IF YOU LIVE  
**WEST**  
OF THE  
MISSISSIPPI



IF YOU LIVE  
**EAST**  
OF THE  
MISSISSIPPI

2406 REACH ROAD  
WILLIAMSPORT, PA 17701  
Customer Service: (717) 326-3806

ORDERS:  
**1-800-523-4777**

## THE EDITOR'S ANGLE

# Wow! 12 YEARS OLD AND ALREADY AN ACCOMPLISHED WOODWORKER

The first time I saw the photo shown at right, I couldn't believe my eyes. It was hard for me to imagine how someone so young could have enough ambition, not to mention courage, to take on a project that is larger than he is. But that was before I read the following letter:

Dear sirs:

My year in 4-H has been very exciting, and I wanted to write and tell you all about it. My name is Jason Bittel, and I'm 12 years old. Woodworking is one of my favorite areas in 4-H, and my dad is our leader.

While I was trying to decide what to build for my 4-H project for the state fair, my mom found your magazine at the grocery store. The pie safe on the cover of the August, 1992 issue caught her eye. She had wanted a pie safe for several years.

She brought the magazine home and asked if I could build it. At first, my dad thought the project was too complicated for me. But when we started studying how the project was described and how well the drawings were done, I decided to try it.

It did take me some time. I work slowly since I'm just learning. But I completed the pie safe in time for the Polk County Fair in Oregon. It was given the championship for woodworking and was chosen to go on to the Oregon State Fair. To my surprise, I also won the championship there. I could not have done this without your help, and I wanted to tell you 'thanks.'

Photograph: Alan Bittel



Twelve-year-old Jason Bittel and his prize-winning pie safe.

I don't know about the rest of you, but I'm really impressed with Jason's craftsmanship. His pie safe looks every bit as nice as the one we built right here in the shop. Congratulations on your fine achievement, Jason—very few people your age could accomplish what you've done.

### Check out our new index

We just completed our long-awaited *WOOD Cumulative Index* covering the first 60 issues. That's an entire library of project plans, techniques, and terrific woodworking features! To get your copy, see our ad on page 87. ♣

Larry Clayton



## Fein "Triangle" Sander Eliminates Hand Sanding

**Now At New Low Price!**

With the NEW Fein "Triangle" Sander, time consuming, sore finger, bloody knuckle sanding is a thing of the past.

Imagine using a power tool to sand all those areas where before, you had to fold up a piece of paper and "finger sand."

You know all those difficult to sand areas; inside & outside edges, closed corners, coves, spots, glue marks, seams, moldings, intricate profiles and so on.

With the Fein "Triangle" Sander, you can sand right up to, into and along edges & corners without dulling the edge or altering the profile.

### How it works

Unlike ordinary sanders, the Fein "Triangle" Sander doesn't rotate. Instead it "oscillates" (a back and forth movement) at a blurring 20,000 times a minute.

### New Low Price

We've gotten the price down as low as possible, with a new list price of only \$275! (It was \$365.00 in 1992).

The Fein "Triangle" Sander takes the drudgery out of hand sanding and frees up hours of your valuable time.

It's easy to get more information, simply call:

**800-441-9878**



**FEIN Power Tools Inc.**  
3019 W. Carson St.  
Pittsburgh, PA 15204  
(412)331-2325

©Fein Power Tools, Inc. 1993

Buy DIRECT from the  
Manufacturer  
and... **SAVE!**

**NEW!**

**White Non-Loading  
SANDING BELTS**



The Ultimate Woodworking BELT.

**Buy 1-Doz. BELTS... Get 12 FREE!**

1"x 30" (12 + 12 Free)	\$18.50	4"x 21" (12 + 12 Free)	\$25.75
1"x 42" (12 + 12 Free)	18.95	4"x 24" (12 + 12 Free)	26.95
3"x 21" (12 + 12 Free)	21.95	4"x 36" (12 + 12 Free)	32.95
3"x 24" (12 + 12 Free)	22.95	6"x 48" (6 + 6 Free)	40.95

(Available 60x, 80x, 100x, 120x, 150x, 180x). Try our NEW White Non-Loading Cloth in Discs, Wide Belts, Edge & Stroke Belts!

**NEW!**

**Hook & Loop SANDING DISCS**

Buy any 3 (50 pks)...Get 4th pack FREE.

	100 To 80 GRIT	400 GRIT	
4 1/2" (8 hole)	\$13.95	\$12.95	• All grits in solid packs of 50.
5" (5 hole)	13.95	12.95	
5" (8 hole)	13.95	12.95	• Coarse grit sizes are available.
6" (6 hole)	16.95	15.95	
6" (8 hole)	16.95	15.95	



TOLL FREE **1-800-428-2222**

• S. & H. - \$4.75  
• PA residents add 6% sales tax.

**INDUSTRIAL  
ABRASIVES CO.**  
643 N. 8th ST. • P.O. BOX 14955  
READING, PA 19612

**Do-It-Yourself Kits**



*Factory Direct  
Clocks and Furniture*  
**Also Assembled  
and Finished**

- Grandfather Clocks, Mantel and Wall Clocks
- Curios, Tables, Chairs, Desks, Cradle...and more!
- Solid 3/4" Black Walnut, Cherry, or Oak
- Heirloom Quality
- Solid Brass West German Movements and Dials
- Money Back Guarantee



SEND \$1 FOR  
COLOR CATALOG

- I am interested in
- Do-It-Yourself Kits
  - Finished Clocks
  - Finished Furniture

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_  
(Please Print)



**EMPEROR  
CLOCK COMPANY**  
World's Largest Manufacturer of Grandfather Clock Kits  
Dept. 4812 Emperor Industrial Park  
Fairhope, Alabama 36532 • Phone 1-205-928-2316

Better Homes and Gardens®

**WOOD**®

THE WORLD'S LEADING WOODWORKING MAGAZINE

This issue's cover wood grain: bird's-eye white ash Cover photograph: Wm. Hopkins

AUGUST 1993

ISSUE NO. 62

WOOD PROFILE

**Tupelo: the wood that pioneer lumbermen left alone** 25  
Though the early settlers shunned this wood, today's manufacturers rely on it for paper pulp, boxes, crates, and even furniture.

CRAFTSMAN CLOSE-UP



27  
Travel to Brainerd in Minnesota's lake-land, and you'll likely see the colorful handiwork of custom signmakers Brent and Carol Manley along the way.

TURNING

**Seafarer's clock** 32  
Set sail for a real turning adventure with this handsome ticker. Contrasting maple strips in a round teak frame help mark the time.

**High-and-mighty tablesaw jig** 34  
Cut bevels and slots in the edges of wide, unwieldy workpieces using the sturdy, precision-oriented jig featured here.

SHOP-TESTED TECHNIQUES

**Always-in-style raised panels and frames** 36  
Try out our jig design from the previous story to make flawless traditional raised panels and frames. We'll show you how.



NOW YOU CAN BUILD IT  
**Down-to-business oak desk** 42  
Work at home in comfort behind this accommodating home-office showpiece. It features raised-panel construction and ample storage.



**Woodworking as a business** 48  
What's involved in selling the wooden things you make at crafts fairs and elsewhere? Find out from an expert who has written a book on the subject, as well as from previously featured craftsmen.

CRAFT SHOP

### One-stop chopping 52

This meat-cleaver cutting board includes a knife-holding slot and looks great just hanging on a kitchen wall when not in use.



### 54

Give your little Lancelot or Guinevere this friendly serpent and personalize it with his or her name.



### Superstamp letter holder 56

This desktop parking place for envelopes and bills can be scrollsawed out in an evening, using the full-sized pattern inside.



CARVING

### Carve a couple of houn' dawgs 58

Check out the five-step process described here for whittling a good-natured pair of pooches. You'll be doggone glad you did.

TOOL BUYMANSHIP

### Multipurpose planer/molders 62

Planing, sanding, molding, and ripping round out the versatility of these heavy-duty shop machines. While they excel at production work, they can save valuable work space and money.



### Craftsman-style wall lantern 69

Build this unique arts-and-crafts outdoor light. Our plans tell how to mount it on your house or to a walkway post.



### SHORT-SUBJECT FEATURES

Editor's Angle . . . . . 1	Great Ideas For Your Shop . 22
Talking Back . . . . . 6	Products That Perform . . . 78
Tips From Your Shop . . . . 12	Wood Anecdote . . . . . 88
Ask WOOD . . . . . 19	Yesterday's Tools . . . . . 90
Finishing Touches . . . . . 96	

## WOOD PEN KITS

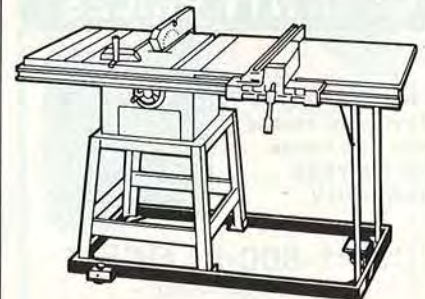
### MAKE YOUR OWN PENS, PENCILS AND MORE!



Get started making your own pens!  
**STARTER PEN KIT \$29.95 PPD.**  
 Includes: Turning Jig for your lathe (requires drill chuck for mounting), 5 Pen Kits, 5 Exotic Wood Blanks.  
 Send \$2.00 for our 56 page color catalog of woodturning supplies and accessories. Refunded with order.  
**Craft Supplies USA**  
 1287 E. 1120 S. Provo, UT 84606  
 Phone 801 373-0917

Put Your Entire Shop On Wheels

## MOBILE MACHINE BASES



- Increase your working area
- Store machines when not in use
- Hundreds of models available
- Precision welded steel construction
- Three 2-1/2" wheels for stability
- Dual wheel locks provide positive positioning
- Lifetime warranty

Call for a free catalog



**HTC Products, Inc.**  
 120 E. Hudson • P.O. Box 839  
 Royal Oak, Michigan 48068-0839

(800) 624-2027

# HARDWOODS

**EXOTIC & DOMESTIC  
OVER 75 SPECIES**  
LUMBER • PLYWOOD • VENEERS  
TURNING SQUARES & BLANKS

## BOOK OF FINE HARDWOODS

**\$16.00** ppd in Cont US

Provides geographic source, description, uses and availability for over 200 woods. Over 70 woods shown in full color. Charts compare physical properties. 60pgs.

## COLLECTORS SAMPLE KIT

30 GORGEOUS WOODS

Exotic & Domestic from  
Around the World  
1/2" X 3" X 6" Sanded Finish

Ideal for Collectors • Schools • Craftsmen • Cabinet  
& Furniture Makers • Architects • Designers

With BOOK OF  
FINE HARDWOODS  
**\$51.00\***

**\$39.00**

\*ppd in Cont US

**PURPLE HEART** IvoryWOOD  
Deep true purple White to pale yellow

## BRAZILIAN CHERRY

Salmon red to orange brown

Your Choice, ONLY **\$3.99**/bd ft

20 BD FT MINIMUM, MIX OR MATCH, 3" - 10" WIDE,  
3" - 7" LONG 4/4 THICKNESS, SURFACED 2 SIDES

FOB PHOENIX

## WE SHIP WORLDWIDE



**1-800-423-2450**

**WOODWORKERS** Source

5402 S. 40th Street • Phoenix, AZ 85040  
602-437-4415

## Locomotive Mailbox Plan



Transform your ordinary mailbox into an extraordinary masterpiece! Fits standard 6-1/2" wide rural mailboxes. FULL SIZE patterns. Make from 1/8", 1/2", 3/4", and 1-1/2" stock.

#W994 Locomotive Mailbox Plan.....**\$9.99/EA**

## Locomotive Mailbox Hardware Parts

This hardware parts package includes a gold bell, smokestack, wood buttons, dowels, screw eye, and screws. Project plan, decal, remaining wood, paint and mailbox are not included.

#2929 Locomotive Mailbox Hdw. Parts  
.....**\$5.99/PKG**

**HOW TO ORDER:** List quantity, part number, item, price & total of order. Include \$4.95 shipping & handling per order. MN residents add 6.5% sales tax. Mail check or money order. Credit card customers call TOLL FREE 1-800-441-9870.

MEISEL HARDWARE SPECIALTIES  
P.O. BOX 70 MOUND, MN 55364

Better Homes and Gardens®

# WOOD®

THE WORLD'S LEADING  
WOODWORKING MAGAZINE

August 1993 • Vol. 10, No. 5 • Issue No. 62

## Editorial/Art Staff

Editor **LARRY CLAYTON**  
Managing Editor **JIM HARROLD**  
Art Director **C. L. GATZKE**  
Design Editor **JAMES R. DOWNING**  
Senior Editor **PETER J. STEPHANO**  
How-To Editor **MARLEN KEMMET**  
Products/Techniques Editor **BILL KRIER**  
Special-Interest Editor **LARRY JOHNSTON**  
Associate Art Director **PERRY A. MCFARLIN**  
Graphic Designer **CHERYL A. CIBULA**  
Project Builder **JAMES E. BOELLING**  
Production/Office Manager **DARLENE REYNOLDS**  
Administrative Assistant **MARGARET CLOSNER**  
Secretary **ROSEMARIE BURCH**

Technical Illustrator **KIM DOWNING**

Technical Consultants: Product Testing **GEORGE GRANSETH**,  
**BOB MCFARLIN**. Collectible Tools **PHILIP WHITBY**.  
Carving **HARLEY REFSAL**. Projects **CHUCK HEDLUND**.

Publisher **WILLIAM R. REED**

Advertising Director **CHRIS W. SCHRAFT**  
Advertising Representatives **CRAIG KAPLAN**,  
**BRENDEL DELANEY**, **VICTORIA PELCYGER**  
Promotion/Research Manager **EILEEN SULLIVAN**  
Advertising Assistant **TARA COLES**  
Advertising/Marketing Services Manager **SIGRID FOLKERS**  
Publishing Assistant **JACKIE MASON**  
ADVERTISING OFFICE: 750 Third Avenue, New York, NY  
10017. Phone 212/551-6903.

Marketing Manager **DONNA BREHM**

Circulation Manager **ALAN BRUSH**  
Business Manager **JANET NELSON**  
Newsstand Circulation Director **MICHAEL SENIOR**  
Production and Technology Director **ROBERT C. FURSTENAU**

## Magazine Group Officers

President **WILLIAM T. KERR**. Vice Presidents/Publishing  
Directors **MYRNA BLYTH**, **CHRISTOPHER LEHMAN**, **CHRIS-  
TOPHER LITTLE**, **ROBERT MATE**, **JERRY WARD**. Vice Presi-  
dents, Better Homes and Gardens **DAVID JORDAN**, **JERRY  
KAPLAN**. Vice President, Operations **DEAN PIETERS**. Vice  
President, Finance **MAX RUNCIMAN**. Vice Presidents, Marketing  
**WILLIAM MURPHY**, **CLEM SEVDE**.

## Corporate Officers

Chairman of Executive Committee **E.T. MEREDITH III**  
Chairman of the Board, President, and  
Chief Executive Officer **JACK D. REHM**  
Group Presidents: Books **JOSEPH J. WARD**. Broadcasting  
**PHILIP A. JONES**. Magazines **WILLIAM T. KERR**. Real Estate  
**ALLEN SABBAG**.

Better Homes and Gardens® WOOD® (ISSN-0743-894X) is published nine times a year in January, February, April, June, August, September, October, November, and December by Meredith Corporation, 1716 Locust St., Des Moines, IA 50309-3023. Second-class postage paid at Des Moines, Iowa, and at additional mailing offices. Better Homes and Gardens trademark registered in Canada and Australia. Marca Registrada en México. ONE-YEAR SUBSCRIPTION PRICES: U.S. and its possessions, \$24.97; Canada, \$34; other countries, \$43. POSTMASTER: Send address changes to WOOD, P.O. Box 55050, Boulder CO 80322-5050. ©COPYRIGHT MEREDITH CORPORATION 1993. ALL RIGHTS RESERVED. PRINTED IN U.S.A. Canadian GST Reg. #R123482887.

MA

## Build a Clock

FOR ONLY **\$495**

OR LESS WITH OUR  
QUANTITY PRICES

Each Mini Quartz  
Movement comes  
with free hands  
and a 6-YEAR  
WARRANTY.



Call **1-800-KLOCKIT**  
(that's 556-2548)

for your FREE CATALOG with our movements, quartz inserts, watches, clock kits, and all your clockmaking accessories.

100% Satisfaction Guarantee  
on all our products.

Discover the FUN and EXTRA INCOME potential of clockmaking.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City, State, Zip \_\_\_\_\_

**KLOCKIT** Dept. WD73  
P.O. Box 542  
Lake Geneva, WI 53147-9961

## STAINED GLASS VIDEO & CATALOG



Improve the  
Looks and  
value of your  
home with:

- Entry doors & sidelights
- Kitchen cabinet inserts
- Tiffany lampshades

Save money and make it yourself -  
Delphi shows you how!

## Make Your Own Custom Stained Glass...

The perfect way to get started in stained glass. Our 25-minute video covers all the basics: Scoring, breaking, foiling, and soldering. Filled with clear and simple instructions, hints, close-ups, and examples to help you craft your own stained glass windows, lamps, and more. VHS only.  
#6149VW...\$10.95 + \$3.00 shipping/hand.

A \$10.95 rebate is applied to your next order. If you don't wish to purchase, just return the video for a prompt refund, but keep the 80-page color catalog.

To Order - Call Toll Free: 1-800-248-2048

**DELPHI**  
STAINED GLASS

2116 E. Michigan Ave.  
Lansing, MI 48912

# If a job is worth doing, IT'S WORTH DOING RIGHT!



**SEND NO MONEY NOW!**  
Try the tools for 30 days, then pay just  
**\$39.99\***

## LIMITED LIFETIME WARRANTY

You may obtain the complete manufacturer's written warranty for this product, free. Specify product name and write to: Warranty Information, 11 McLeland Road, St. Cloud, MN 56395. (A copy of the written warranty is also enclosed with the merchandise.)

Professional-quality Master Craft™ 76-Pc. Tool Set makes easy work of your do-it-yourself projects!



Includes specialized bits!



Home repairs are quick and easy with a complete tool set!



Extension bar helps you reach the tight spots!



Sliding T-bar helps you get at hard-to-reach nuts and bolts!

The best tools produce the best work! You'll appreciate the great selection of tools in this 76-Piece set. All are constructed of durable triple-plated chrome vanadium steel.

**TRY THE ENTIRE SET AS YOUR OWN FOR 30 DAYS – FREE!** (with credit approval)

**76-Pc. Set is chrome vanadium steel to meet the demanding American National Standard:**

- 10 6-Pt. SAE Sockets (5/32"-1/2")
- 14 6-Pt. Metric Sockets (4-14mm)
- 5 6-Pt. SAE Deep Well Sockets (3/16"-7/16")
- 5 6-Pt. Metric Deep Well Sockets (6-10mm)
- 3 8-Pt. Sockets (1/4"-3/8")
- Disc Ratchet
- Spinner Handle
- 3" Standard Extension Bar
- 35 Bits: 6 6-Pt., 4 Phillips, 3 Pozis, 8 Hex, 2 4-Pt., 2 Clutch, 6 Metric Hex, 4 Flat
- Special Coupler

**PLUS – Sliding T-Bar AND custom molded high-impact plastic case.**

You can't find a quality tool set like this at a lower price! **ORDER TODAY!**

VALUES DIRECT TO YOU FROM  
**fingerhut**  
BOX 2500 ST. CLOUD, MN 56395



\*plus shipping and handling Imported.  
© Fingerhut 5-032392-000

**SEND NO MONEY NOW!**

**30-DAY NO-RISK FREE TRIAL COUPON**

(Free Trial with credit approval)

4565495

MAIL TO: Fingerhut Corporation, Box 2500, St. Cloud, MN 56395-2500

**YES.** Please send me the 76-Pc. Master Craft Tool Set for my 30-day Free Trial.

Product Code: S8520

Print Name \_\_\_\_\_

Address \_\_\_\_\_ Apt. No. \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Home Phone (\_\_\_\_) \_\_\_\_\_ Date \_\_\_\_\_

If I am delighted with my Tool Set at the end of my 30-day Free Trial, I agree to pay the cash price of \$39.99 plus shipping and handling (total cash price of \$46.96) in 4 monthly payments of \$11.74 each. Sales or use tax will be added where applicable. I understand that I may return the Tool Set at my expense if I am not completely satisfied at the end of my 30-day Free Trial. This order is subject to approval of my credit by Fingerhut. This offer is good in the United States only, including APO/FPO.

Please Sign

**ORDER TODAY! Satisfaction Assured!**

We welcome comments, criticisms, suggestions, and even compliments. Send your correspondence to: Talking Back, Better Homes and Gardens WOOD Magazine, 1912 Grand Ave., Des Moines, IA 50309-3379.

## Jointing cuts sanding in half



The "Woven-Wood Clothes Hamper" in your January 1993 issue really caught my eye. However, when I visualized all the strips to be sanded, I dismissed the idea as too much work. Then an idea popped into mind. Before ripping each strip, I'd run the stock over the jointer, then rip. This gave me one very smooth surface for each strip and

sanding was cut almost in half. After ripping all of the weaver strips, I mounted them on a carrier board using double-faced tape and ran them through my drum sander. Worked great!

—Raymond Babcock, San Angelo, Texas.

## Piping for shop vacuum needs grounding

Your [Tips From Your Shop] article, "Piping for Your Shop Vacuum" in issue 50, gave me concern about the lack of grounding for static electricity. Shouldn't a bare wire run through the length of the piping and be grounded?

—Daniel Simmons, Fond du Lac, Wis.

Correct, Daniel. Any bare wire anchored at one end of the PVC and grounded at the other will prevent static electricity from building up.

## Pivot arm rids underfoot cords

I have always tried to eliminate potential safety hazards. So when I built my shop, I put duplex outlets on each alternate stud on all four walls to eliminate the need for extension cords. However, this wasn't enough. Some tools ended up in the middle of the floor along with the necessary extension cord. So, in the center of the building, I built a pivoting arm with a single electric outlet. A simple 2x4" mounted with a bolt to the ceiling joist works. Now, when I use a portable power tool, the electric cord stays overhead and out of my way.

—Robert Furr, Fredricksburg, Va.

## Space Age Reinforced Polymer WORKHOLDING HAND CLAMPS

Light Weight  
Soft or Hard Tips  
Chemical Resistant  
Non-Conductive  
Made in USA



**NEW!**

FROM

**BTM**  
®

BTM Corporation  
300 Davis Rd  
Marysville, MI  
48040 USA

MODEL	OPENING	HOLDING	PRICE
CC-1	1"	10 lbs.	\$ 4.75
CC-2	2"	100 lbs.	7.50
CC-3	3"	200 lbs.	9.75
CC-4	4"	300 lbs.	16.50

VISA & Mastercard Accepted

ORDER TOLL FREE 1-800-878-1900

## TRANSPOWER

FOR EXPRESS NEW CATALOGUE CALL  
1-800-654-7702

TS200HD



HP500



## SUPER HEAVY DUTY WOODWORKING EQUIPMENTS

200HD	10" SUPER HEAVY DUTY TABLE SAW, 3HP	\$940
200HA	10" SUPER HEAVY DUTY TABLE SAW, 3HP	\$740
MS250	10" TABLE SAW, 1½HP	\$345
SB800	20" BAND SAW, 3HP	\$1290
SB700	18" BAND SAW, 2HP	\$625
SB600	16" BAND SAW, 1½HP	\$475
SB500	14" BAND SAW, ¾HP	\$250
AP200A	20" AUTO PLANER, 2 SPEEDS, 3HP	\$1275
AP400	24" AUTO PLANER, 3 SPEEDS, 7HP	\$2590
AP650	15"X8" AUTO PLANER, 2 SPEEDS, 2HP	\$695
AP800	16"X8" AUTO PLANER, 2 SPEEDS, 3HP	\$740
AP150	12"X6" AUTO PLANER, 2HP	\$345
SP980	TILTING SPINDLE SHAPER, 1¼" & ¾", 3HP	\$1250
HP500L	3HP SHAPER, 1" ¾" ½" SPINDLES	\$785
HP500	3HP SHAPER, 1" ¾" ½" SPINDLES	\$740
DH150	1½HP SHAPER, ¾" ½" SPINDLES	\$398
JT650	6" LONG BED JOINTER, 1HP	\$325
JT860	8" HEAVY DUTY JOINTER, 1½HP	\$650
1200	12" HEAVY DUTY JOINTER, 3HP	\$1695
747	DUST COLLECTOR, 650 CFM, 1HP	\$175
2000	DUST COLLECTOR, 1250 CFM, 2HP	\$294
3000	DUST COLLECTOR, 1850 CFM, 3HP	\$345
RF150	AUTO FEEDER, ¼HP	\$385
RF250	AUTO FEEDER, 1HP	\$640
SD800	90" EDGE SANDER, 2HP	\$420
SD1200	123" EDGE SANDER, 2HP	\$980
DB600	AIR DRUM SANDER, 1HP	\$285
..... AND MORE.		

C.P. Tools, Inc.

• 14257 E. Don Julian Rd., Industry, Ca. 91746  
818-333-7701



## CAD works for him

The handiest tool in my wood-working shop is my personal computer with my Computer-Assisted Drafting (CAD) program. I discovered CAD at my office and now teach [the use of] it at a community college. I'll bet a lot of your readers have access to a computer with CAD at work or in their home. Here are just a few of the woodworking problems CAD has helped me solve.

First, it helped me create an artful wood sign using computer fonts for the lettering. (After this, I printed out a full-size pattern.) Second, I designed a quick-cutting pattern for rafters in my garden shed. Third, I found I could optimize my shop layout on the computer screen. And finally, I determined how to make the most efficient cuts from stock by using the easy-to-use cutting diagram program.

—Dan Tonjes, Milford, Neb.

## Monster Truck is best of show

I was looking for a project to enter in the Georgia National Fair and your "Monster Truck" (issue 35) designed by Edward Dohm fit the bill. However, I felt the design deserved a better wood than pine so I used walnut and maple and added on a few extra features. I also enlarged the plans by seven percent. This project not only won the blue ribbon in its category, but also the Best of Show. Thanks to Mr. Dohm's design and *WOOD* magazine.

—Jim Fodor, Warner Robins, Georgia.



**“The name Freud to me means the Absolute Best.”**

Pete Przekop  
Wilkes Barre, PA

“I heard these blades were the best. After trial, I agree.”

W. Graboski  
East Hartford, CT

“You have restored my faith! Every single claim of safety and ease of cut is true and more! If anything, your ads are greatly understated. It cut like the proverbial hot knife through butter...”

John R. Allen  
Mesa, AZ

“Your blades have proven their worth in my shop.”

Chuck Nixon  
Canton, NC

“I bought your TK 24 T (Tooth) at a woodworking show to try it out and it even cross cuts better than my 60 tooth blade from another Co. Thank you for an excellent product.”

Myron Janisch  
Port St. Lucie, FL

“I've used Freud Blades for the last 12 yrs.”

Blane Porter  
Alamogordo, NM

“A few months ago, I bought one of your “TK” series 10" x 50t combination blades and I'm very impressed with the high quality. Freud makes the best saw blades.”

Gary Snodgrass  
Tracy, CA

“I cut 1" plexiglass everyday - last blade lasted 2 years, without sharpening.”

Bill Leslie  
Tucson, AZ

“Quality — Best blade ever used”

R. R. Bohnsack  
Emily, MN

“Longest lasting sharp edge.”

Samuel K. Lantz  
Newburg, PA

Micro-grain carbide tips plus laser cut blade bodies plus tri-metal brazing... It's **pluses** like these that make our blades the best in the world — guaranteed. But ask woodworkers who use Freud blades & they'll tell you quite simply, “Freud is the best.”

**freud**<sup>®</sup>  
Precisely what you need.

High Point, NC • 800-472-7307

## WANTED: VERY QUALIFIED WRITER/WOODWORKER

Meredith Corporation's *WOOD*® magazine seeks the talents of an experienced writer and woodworker. This person will be responsible for researching and writing a wide range of magazine articles. Attention to details and accuracy a must, as well as abilities to meet deadlines and stay organized. Applicants must have three years journalism experience.

Location: Des Moines, Iowa. Send resume, writing samples, and cover letter with salary history in confidence to:

Ms. Blair, Corporate Supervisor Staffing Services/Dept. 850 Meredith Corp.

1716 Locust St.  
Des Moines, IA 50309-3023

Equal Opportunity Employer

Continued on page 8

Best Catalog Values...

# PENN STATE

Quality Woodworking Machines & Accessories

Industries

## Portable Panel Saw System

Makes Precision Cabinet Maker Cuts!



A Special Ball Bearing Tracking System that Works with any Hand Held Circular Saw or Router

- Includes:
- Tracking Fixture
  - 64" Short fence
  - 108" (9') Long Fence

Item # PPS-B

**SPECIAL \$8900**

UPS #104

### Super 125 Planer



**\$35995**  
UPS #150

- Item #: PLA
- Portable at 65 lbs • 26.2 fpm power feed
  - HSS Knives 12-1/2" wide
  - Motor: 16Amp, 8000RPM 2 HP, 115V
  - 1/8" Max depth of cut

### Air Brad Nailer Kit



**\$12995**  
UPS #150

- Item #: ANK
- Shoots 18 ga nails from 13/32" to 1-9/16"
  - Lightweight at 2 lbs.
  - Contact safety switch
  - Kit includes: case, 5,000 free nails & accessories

### Air Cleaning System



**\$29900**  
UPS #150

- Item #: AC460
- Removes sawdust from the air you breathe
  - 460 CFM air circulator handles most shops
  - Washable pre-filter
  - High efficiency internal bag filter
  - Unit size: 12" x 24" x 30", 35 lbs.

### Portable Dust Collector



**\$20995**  
UPS #150

- Item #: DC3
- Portable at 50 lbs. • 700 CFM
  - 1 1/2 hp • Includes 30 micron high filtration bag
  - Free adaptors and hose — \$150 value



Call Toll-Free  
**1-800-377-7297**

Information: 215-676-7609  
Fax: 215-676-7603

Call or write for our  
New 32 page Color Catalog

Penn State Industries 2850 Conly Road Philadelphia, PA 19154 Dept W.

**30 Day Money Back Guarantee & 1 Year Warranty**

## TALKING BACK

Continued from page 7

### Clock movements change hands

In the January 1992 issue, we presented the Shaker-style wall clock with the movement and hardware from Mason Sullivan. However, the company has discontinued supplying that particular clock movement, along with the hands, dial, Shaker peg, hinges, and catches, as listed in the Buying Guide at the end of the article. But, we have a new source for all of the hardware: Turncraft Clocks, P. O. Box 100W, Mound, MN 55364-0100. To order, request kit no. 6401. It costs \$29.95 plus \$4.95 shipping from the above address, or call 800/544-1711 to order.



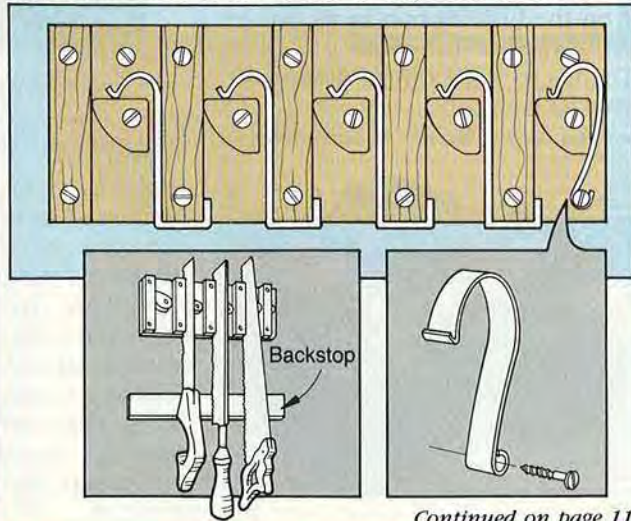
### Steel bands make cams "grab"

Your saw-rack plans in issue no. 57 inspired me to make them for Christmas presents for my sons and sons-in-law. But in trying the finished product out, I found that the cams, even though they turned freely, sometimes hesitated to grab the saw. To solve this occasional flaw, I made some springs out of 1/2" steel bands such as those used in shipping lumber, etc. (free for the asking at most lumber yards). I split the bands lengthwise into 1/4" strips and shaped them as illustrated. The right-hand spring needs a wire nail to hold it in place (one to hold the spring in position and one for the spring to pivot against).

I also noticed that the saws could tend to swing in and unlatch. So I placed a backstop on the wall about 14" down from the holders.

—Ken Albert, Sioux Falls, S.D.

Your additions make sense to us, Ken. Thanks.



Continued on page 11

**QUAKER STATE has all your  
CLAMPING NEEDS  
...all under one roof!**

**TRU-GRIP CLAMP 'N TOOL GUIDE**



MADE IN THE U.S.A.

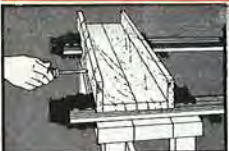
IT'S A GUIDE OR FENCE...

PATENTED  
"INSTANT"  
ADJUSTING  
LOCK JAW

...AND A  
BAR CLAMP!

- 24" GRIP...Cat. #2175...\$23.95
- 36" GRIP...Cat. #2179...\$26.95  
(PANEL WIDTH)
- 50" GRIP...Cat. #7176...\$30.95  
(PANEL WIDTH)

**TRU-GRIP BACK-TO-BACK BENCH CLAMP**



- 18" GRIP  
Cat. #2177...\$32.95
- 36" GRIP  
Cat. #2178...\$40.95
- 50" GRIP  
Cat. #2180...\$45.95

**New! TRU-GRIP CLAMP KITS**

- KIT #1** Contains: 1-24" CTG, 1-36" CTG, 1-50" CTG  
Cat. #2181... Only **\$74.99**
- KIT #2** Contains: 1-24" CTG, 1-36" CTG, 1-50" CTG, 2-36" BTB  
Cat. #2182... Only **\$147.99**
- KIT #3** Contains: 1-24" CTG, 1-36" CTG, 1-50" CTG, 2-50" BTB  
Cat. #2183... Only **\$159.99**
- KIT #4** Contains: 2-24" CTG, 2-50" CTG, 2-50" BTB  
Cat. #2184... Only **\$169.99**

**New! GRIP-TITE  
MAGNETIC FEATHERBOARD**

The GRIP-TITE will stick to any portion of your cast iron machines as if it were attached with nuts and bolts. The GRIP-TITE keeps your hands clear of dangerous blades, and is perfect for ripping and cutting small widths.

GRIP-TITE MAGNETIC FEATHERBOARD  
Cat. #2159  
**\$29.99**



**STANDARD FEATHERBOARD**

Fits any machine with 3/4" mitre slot... applies pressure against fence and acts as an anti-kickback device.  
STANDARD FEATHERBOARD...  
Cat. #2160 **\$12.99**  
2 for **23.99**

**New! PUSH BLOCKS**

Use for your Jointer, Shaper, and Table Saw... comfortable handle with firm pad that almost locks to wood being handled.

PUSH BLOCKS... Cat. #2071 **\$6.99** 2 for **\$11.99**



**New!  
EQUI-PRESSURE  
GLUE-UP CLAMP**

Cat. #2068 **\$24.99**

The top-and-bottom pressure is applied directly onto your workpiece, preventing the bottom support from bowing. Mount the notched guides onto any length of your own 2 x 4's, 2 x 3's, or even 2 x 2's (screws included).

**QUAKER STATE  
WOODWORKING SUPPLY**

READING AIRPORT INDUSTRIES BUILDING #2  
R.D. #9 • BOX 9386 • MA93-02 • READING, PA 19605



**QUICK-GRIP  
CLAMPS**

**FREE  
Shipping**  
on orders over \$25  
until August 1, 1993  
(CONTINENTAL  
U.S. ONLY)



Cat. #	Jaw Opening	Price
2100	6"	\$13.95
2101	12"	15.95
2102	18"	16.95
2103	24"	18.95
2104	36"	20.95

**QUICK-GRIP FULL FACE PADS**  
Replaces regular Pads... gives clamping capabilities all the way to the bar... perfect for edge gluing operations.

FULL FACE PADS...  
Cat. #2113 **\$3.99** per pair



**QUICK-GRIP "BENCH"  
HOLD-DOWN CLAMP**

Strong, quick hold down for mounting on your workbench. A full 5" opening allows for extra thick clamping 3/4" hold accepts mounting hardware underneath workbench.

HOLD-DOWN CLAMP  
Cat. #2109... **\$20.95**



**EXTRA MOUNTING  
HARDWARE KITS**

Allows 1 Hold-Down Clamp to be used in various positions on work-bench.

Cat. #2110... **\$7.99**  
INCLUDES  
2 PAIR

**QUICK-GRIP 4-PIECE CORNER  
ACCESSORY KIT**

Turn your QUICK-GRIP CLAMPS into Cornering Clamps... great for Cabinets, Drawers, Picture Frames (Includes 1-Corner Bracket, 1-Corner Pad, and 2 Full Face Pads. Great for edge gluing. (Will Not Fit Mini Clamps).)



4-PC. CORNER ACCESS. KIT  
Cat. #2105... **\$7.95**



**QUICK-GRIP  
6" and...New 12"  
MINI BAR CLAMP**

Strong yet lighter weight than the regular clamps. Ideal for small clamping jobs and crafts... with a soft pad that will not mar work surfaces.

6" MINI CLAMP... Cat. #2108 **\$11.95**  
12" MINI CLAMP... Cat. #2107 **13.95**

**New! 18" QUICK-GRIP SPREADER  
CLAMP**



Great for disassembly of antiques. A one-hand Quick-Grip working in reverse... perfect for cabinet-making.

SPREADER CLAMP  
Cat. #2115 **\$19.95**  
each

**QUICK-GRIP  
7-PIECE CLAMPING KIT**

Corner clamping kit is great for cabinets, drawers, picture frames - any job where corners need to be joined. Kit includes (1) 6" QUICK-GRIP BAR CLAMP, 1-Corner Bracket, 1-Corner Pad, and 2 Full Face Pads.



Cat. #2106  
**\$19.50**

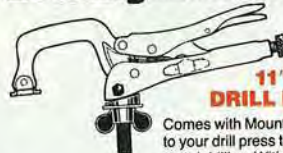
ALL OUR PRODUCTS ARE GUARANTEED!

**WISE-GRIP Locking Hand Tools**

**LOCKING C-CLAMPS  
with SWIVEL PADS**

Strong and durable woodworking WISE-GRIP locking C-Clamps that can be used in 100's of clamping situations.

- 6" Length with "FREE" pair of soft non-marring Pads for woodworking... Cat. #2112 **\$9.99 ea.**
- 11" Length with "FREE" pair of soft non-marring Pads for woodworking... Cat. #2116 **\$15.99 ea.**



**11" LOCKING  
DRILL PRESS CLAMP**

Comes with Mounting Hardware to secure to your drill press table... great for wood and metal drilling. With soft non-marring pad!  
11" DRILL PRESS CLAMP... Cat. #2117 **\$15.99 ea.**

**1-800-776-5467**  
FOR FAST DELIVERY!

FAX #215-478-9388

- Check  Money Order  Discover
- MasterCard  Visa

PA residents add 6% sales tax.



**FREE SHIPPING**

on orders over \$25.00

(CONTINENTAL U.S. ONLY)

offer good until August 1, 1993

NEED  
EXTRA  
INCOME?

## WOODCARVING



### IS FUN AND PROFITABLE

*Want to carve decoys, statues or gun stocks?*

It's easy when you use the Dupli-Carver Series wood carving machines. A patented five axis carving action allows these machines to complete difficult undercuts and contours as no other machine can. Complete machines available starting as low as \$359.00.

SEND FOR OUR FULL LINE BROCHURE AND PRICE LIST AND START PLANNING YOUR FULL OR PART-TIME BUSINESS.



**MARLIN INDUSTRIES, INC.**

Rt. 70, Box 191, Dept D38  
Cashiers, NC 28717  
(704) 743-5551

## Buckboard Bench (real springs)



Kit includes:  
authentically  
designed steel  
springs that give a  
little, metal arms &  
backrails, complete  
hardware &  
detailed instructions.  
**\$49.00** (Visa,  
MC Accepted)

Price includes shipping UPS. IN res. incl. 5% sales tax.  
We manufacture the bench from solid oak / with cushion  
and personalized with your name or business. **\$244.00.**

### The Roudebush Co.

Box 348A, Star City, Indiana 46985  
**800-847-4947**

## SAVE MONEY!

# KILN DRY LUMBER

### MAKE MONEY!

Kiln Dry for others.

As the nation's largest manufacturer of dehumidification Dry Kilns, we can supply you with the same type equipment used by many of the major firms.



**1-800-777-NYLE**  
Nyle Corporation 207-989-4335  
P.O. Box 1107, Bangor, Maine 04401



## Garrett Wade

161 Avenue of the Americas  
New York, NY 10013  
(800) 221-2942

Woodworking Tool Catalog: 232 pages of tools from the USA and around the world: measuring tools, planes, saws, chisels, carving tools, power tool supplies, workbenches, finishing supplies and books - plus hundreds of tips on selecting, using, and maintaining the tools that will serve you best. **\$4.00**

24 Page Sampler Catalog **Free**

Classic Hardware Catalog: 48 pages of the finest brass furniture hardware: handles, knobs, hinges, latches, locks, and casters. **\$3.00**



## WOODHAVEN

- \* ROUTER TABLES \*
- \* ACCESSORIES \*
- \* TEACHING VIDEOS \*
- \* ROUTER BITS \*

### Free Catalog

5323 W. Kimberly Road  
Davenport, IA 52806  
**1-800-344-6887**

## SQUARE DRIVE SCREWS

*Simply the Best!*

- Square Drive Beats Driver Slippage
- Hardened Steel for Extra Strength
- Deep Thread for Super Grip
- Also Brass and Stainless

Send \$3 for Samples and Catalog



**McFEELY'S**  
SQUARE DRIVE SCREWS

P.O. Box 3 • 712 12th St  
Lynchburg • Va • 24505  
Toll Free 1-800-443-7937  
or FAX (804) 847-7136

# Turn Your Hobby Into A Business

**A**s a FURNITURE MEDIC®, you can use your woodworking talent as a stepping stone to a full-time business of your own.

Advanced technology allows FURNITURE MEDIC® to perform various types of on-site furniture repair, including scratches, dents, water marks, finish imperfections, broken joints, etc.

The market for our services is unlimited and includes manufacturers, shippers, moving companies, retailers, hotels and a multitude of other commercial settings where furniture takes heavy wear and tear.

We Offer

- Comprehensive training - no experience required.
- Continuous support.
- Research and development support.
- Advertising materials and national support.
- Flexible work schedules.
- Low overhead/low capital concept.

For more information on this franchise opportunity, call FURNITURE MEDIC®. We accept calls 24 hours a day.

**1 (800) 877-9933**

... or call us collect at (404) 361-9933



## FURNITURE MEDIC®

"the prescription for damaged furniture."®

# TALKING BACK

Continued from page 8

## High marks for our new tool rating system

I just read the December issue of *WOOD* and wanted to tell you that the new rating system for tool testing is great—exactly what was needed. I appreciate the reviews and base a lot of my purchases on them. In fact, I wish I would have waited for your biscuit-joiner review.

—Dan Alter, Ft. Wayne, Ind.

## Tool photos mixed up

Delta's model 7441 finishing sander and Black and Decker's model 7463 variable-speed Powerfile are shown below. The Top Shop Tip prize for issue 61 contained a photo of the Delta grinder/finisher. That's the prize for this issue's winner.



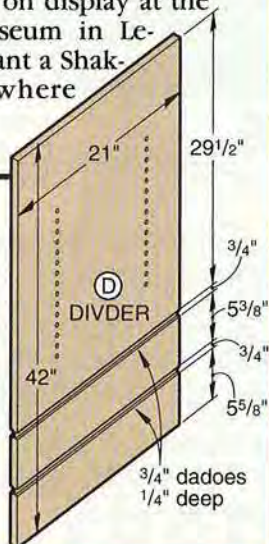
## Shaker dresser is actually a chest with cupboards

Good to hear that you plan to offer more plans featuring Shaker furniture. However, I thought you might like to know that the Shaker dresser in your October 1992 issue is actually a chest with cupboards. Unless I miss my guess, your "dresser" was from a measured set of plans from the Old Chatham Museum in New York. I point this out because the Shakers did make dressers in the form of one-drawer to three-drawer blanket chests. The Shaker craftsmen finally designed a true chest of drawers in 1827. That chest is on display at the Warren County Historical Museum in Lebanon, Ohio. If you really want a Shaker chest of drawers, that's where you'll find it.

—Wayne Hensley, Blacksburg, Va.

## Shaker tall-chest update

Note this correction in our Shaker tall-chest plans (or, chest with cupboards, if you prefer) in the October 1992 issue, page 37: The bottom dimension on the divider drawing should be 5 3/8", not 5 3/4" as listed. The overall measurement of the divider (D) is correct.



# The World's Finest Dado Head Clean Cuts All Your Grooves!

*Of 29 dado sets tested by WOOD® Mag.*

"Only the Forrest Dado-King earned 'Superior' ratings in every category."

*Better Homes and Gardens WOOD, Oct., 1991, p. 60*

"No tearout on all five woods tested"  
(including melamines and oak/birch plys)\*

**BEST OF 32 SETS TESTED!**

"Forrest Manufacturing Co. makes the only dado set with a negative hook on all its teeth, including chippers. This effectively makes the teeth cut 'up' into the wood, even when used on a tablesaw. It was the only set that cut the oak-veneered plywood without tearout and it also gave a perfectly flat bottom with a discreet little scribe."\*

*Jim Putebaugh  
\*See Fine Woodworking, July/August, 1991, pg. 59*

• **NO SPLINTERING** —  
cross-cutting oak,  
ply veneers and melamine.

• **PERFECT  
FLAT-BOTTOM  
GROOVES** —

not staggered steps or  
round bottoms like a  
wobble-dado leaves!

• **CUTS IN ALL  
DIRECTIONS** —  
rip, cross-cut, miter,  
any depth.

• **CUTS  
ALL SIZED  
GROOVES** —  
1/8" thru 1 3/16" in 1/16"  
increments. (Set of  
.005" plastic adjusting  
shims included).

• **SUPER-HARD  
CARBIDE** —  
gives up to 300% longer  
life, especially good on  
ply woods and abrasive  
particle-boards.

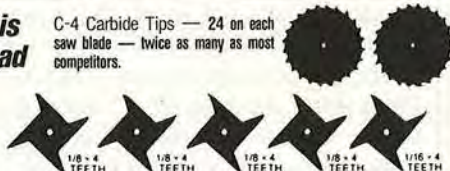


**TRIABLE & RETURNABLE**  
for full cash refund if  
not completely satisfied.

**Here is why this  
great Dado Head  
has no equal!**

C-4 Carbide Tips — 24 on each  
saw blade — twice as many as most  
competitors.

C-4 Carbide Tips —  
4 on each chipper, with  
special negative face hooks.



**SPECIAL SALE!** 8"-5/8" Bore List \$299/**SALE \$269**  
**10% OFF!** 10"-5/8" Bore List \$362/**SALE \$325**  
MENTION WOOD MAG. FOR EXTRA BONUS.

Dealer Inquiries Welcome.

BUSINESS OPEN ACCOUNTS  
AVAILABLE

# FORREST

FORREST MANUFACTURING COMPANY, INC.

461 River Road, Clifton, N.J. / 07014

TO ORDER PHONE TOLL FREE!

(or inquire) 1-800-733-7111

(In N.J.: 201-473-5236) FAX: 201-471-3333



SPECIFY DEPT. WD WHEN ORDERING FOR BONUS.

We honor Amex, Visa & Master

Card, Money Orders, Personal

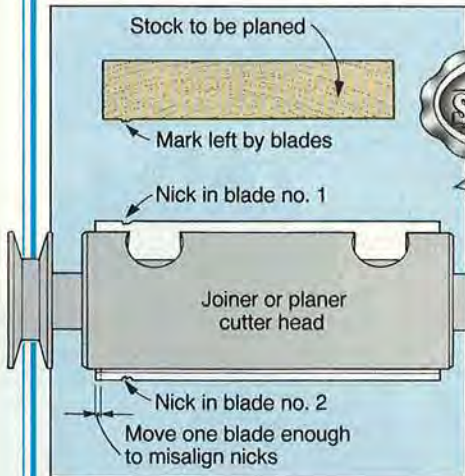
Checks and COD's TO ORDER

BY MAIL clip ad, circle choices

and enclose payment.

**Slide to side eases nicked-knife grief**

*AARGH! A ridge on the board! Something has nicked your thickness-planer or jointer knives. You have a few more pieces to plane,*



*no spare knives, and the sharpening shop is closed for the weekend. Are you just out of luck?*

**TIP:** You can still complete that project. Move one of the knives  $\frac{1}{16}$ " or so to one side, and carry on with the job. By offsetting the nicks on the blades, your stock comes out clean.

—Gary Miller, Peek, Minn.



For his tip, Gary receives a Delta model 23-675 6" bench grinder and 3x24" belt sander, shown right.



**EARN CASH, PRIZES FOR YOUR TOP SHOP TIP**

Do you have a great shop tip (or two) you'd like to share with other WOOD® magazine readers? For each published submission, you will get at least \$40 from WOOD magazine (as much as \$200 if we devote a page or more of space elsewhere in the magazine to your idea). You also may earn a wood-working tool for submitting the Top Shop Tip for the issue.

We try not to use shop tips that have appeared in other magazines, so please send yours to only one. We do not return shop tips. Mail your tip(s), address, and daytime phone number to:

**Top Shop Tip**  
WOOD Magazine  
1912 Grand Ave.  
Des Moines, IA 50309-3379

**Open the door to convenient clamping**

*You start to feel awfully clumsy when clamping small pieces, what with trying to hold the clamp, the pieces, and the protective pads while turning the clamp screw.*

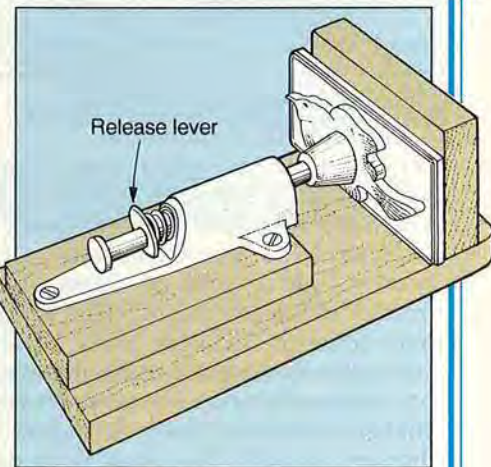
**TIP:** This light-duty clamp sits on the bench to take the pressure off you and put it on the work where it belongs. It does the job without clamp screws because it's really a quick-release doorstop.

To build the jig, assemble a frame of  $\frac{3}{4}$ "-thick scrapwood like the one shown right. (Select di-

mensions to meet your own needs.) Then, mount the doorstop where shown. (Build one with multiple doorstops for larger work.) To clamp, simply push the plunger to press the workpiece against the back of the jig. To release, push the lever toward the doorstop body.

You also could adapt doorstops to secure work on a drill-press table, miter box, or other equipment. Hardware stores and home centers sell the doorstops.

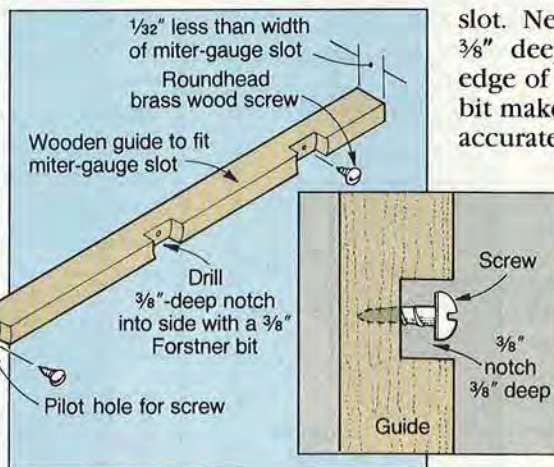
—Lloyd Prailles, Boulder Junction, Wis.



**Brass screws solve sticky saw situation**

*Many shop-made tablesaw jigs employ hardwood strips that slide in the miter-gauge slots. But the strips sometimes swell, making them bind in the slots. That is, unless they shrink and become so loose they affect accuracy.*

**TIP:** Adjustable-width guide strips will end the problem. To make them, start with a hardwood strip slightly narrower (by  $\frac{1}{32}$ " or so) than the width of the miter-gauge



slot. Next, cut a  $\frac{3}{8}$ "-wide notch  $\frac{3}{8}$ " deep every 3–4" along one edge of each strip. (A  $\frac{3}{8}$ " Forstner bit makes the notches quickly and accurately.) Center a pilot hole in each notch, and drive in a #6x $\frac{1}{2}$ " round-head brass wood screw. (Don't use steel screws; they could cause the slots to wear excessively.) Now you can adjust the guide-strip for fit by turning the screws in or out.

—Jerry Miller, Ringwood, N.J.

Continued on page 14

# Craftsman's New Radials Industry Leaders Any Way You Cut It.



Simple and accurate alignment. Fast, visible adjustments. Unparalleled safety. Craftsman's new radial arm saws offer you breakthrough technology and old-fashioned quality.

Just how good are these new radials? Well, we've released our revolutionary new blade guard design to competing manufacturers because a design this good should be shared. And that's just one of the many impressive features we designed into our new saws.

So visit your local Sears store and check out our new radial arm saws. Or, order direct from Sears catalog. There's a saw just right for you.

## CRAFTSMAN®

Only at Sears

Horsepower shown on tools is maximum developed.

## TIPS FROM YOUR SHOP (AND OURS)

Continued from page 12

### Brassy solution for a sloppy miter gauge

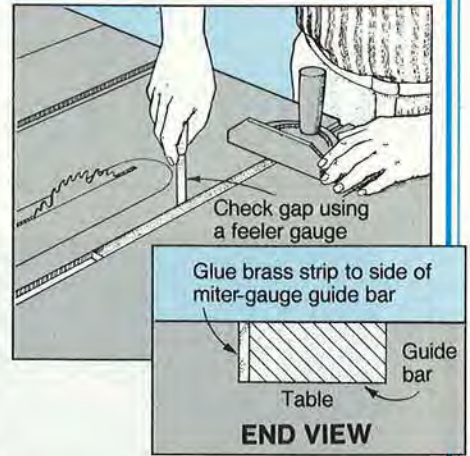
Your miter gauge fits loosely into the table slot. This side play affects the accuracy of your cuts.

**TIP:** Put your miter gauge back into the groove with a snug-fitting guide bar. First, measure the amount of play with feeler gauges, available from auto-supply stores. Slip different gauges into the gap between the miter-gauge

bar and the side of the slot until you find one that minimizes play yet still allows the bar to slide.

Then, from brass stock of that thickness, cut a strip to fit the side of the bar. (Buy thin brass shim stock from a hobby shop or auto-supply dealer.) Bond it to the side of the bar with cyanoacrylate adhesive. Polish and wax the bar.

—Mel Morabito, Mahopac, N.Y.



### Get right to the point when sharpening an awl

When sharpening an awl (or a center punch), it's all too easy to make the tip look more like a faceted diamond than a smooth, pointed cone.

**TIP:** Form a perfect tip with this jig made from 1½ × 1½ × 2" scrap-wood. To make one, drill a hole ¼" larger than the tool's shaft



diameter lengthwise through the stock. Bandsaw or scrollsaw the opening shown. Glue nonskid material onto the bottom.

To use, insert the tool, set the jig at the proper angle to a belt or disc sander, and rotate the tip against the moving abrasive, holding the jig with your other hand. Maintain drag by pressing a finger against the tool shaft.

—Jay Wallace, Ashland, Ore.

Continued on page 17

## FLAT PANELS...

# FAST!

### WITHOUT DOWELS OR BISCUITS

The PLANO Vertical Glue Press uses a patented design to line up boards and automatically apply even pressure on all glue joints. This produces a strong, flat panel without time-consuming dowels or biscuits.

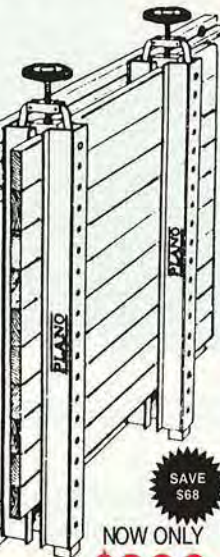
PLANO mounts on any wall, has 5" thickness capacity, 43" width (49" available) and unlimited length (just add more clamps). Made of anodized aluminum and galvanized steel, PLANO is designed to last a lifetime.

Take advantage of our Special Offer — Call for more information today!

CALL NOW

**1-800-220-4264**  
(IN DE CALL 1-322-2226)

ADVANCED MACHINERY IMPORTS LTD. P.O. Box 312, Dept. 561 New Castle, DE 19720



### 39" STARTER PRESS

Includes:

Two 43" clamps, One 39" rail

- Extra clamps and rails available
- 30-day satisfaction guarantee
- Add 5% for shipping/handling

## ROBLAND X 31 THE INTELLIGENT ONE MAN SHOP

90-MINUTE DEMO VIDEO



- 1100 lbs.
- 3 separate 3HP motors
- 12" jointer
- 12" planer
- 10" table saw
- 50" sliding table
- 3HP shaper
- mortiser
- cast iron

### The Robland X 31

is designed to make maximum use of minimum space ideal for the small professional shop and the demanding hobbyist. Change from one tool to another in 20 seconds or less! Solid, sturdy, reliable.

CALL OR WRITE FOR MORE INFORMATION NOW!

2265 LAGUNA CANYON RD., LAGUNA BEACH, CA 92651

# LAGUNA TOOLS

1-800-234-1976 or 714-494-7006





## How to keep your duck from looking like a silly goose.

The Dremel Heavy Duty Flex-Shaft tool gives you the power and control you need to create birds so lifelike they can almost fly. That's why it's the official carving tool of the Ward World Championship. The big 1/5 hp motor gives you the power you need for "hogging" out wood. The smooth running Flex-Shaft and interchangeable hand pieces run smooth and cool. And the variable speed foot peddle gives you precise, hands-free control from 0-20,000 rpm. That's the kind of control that makes all the difference in your carvings.

For more information, or to order the Heavy Duty Flex-Shaft tool, call us at 1 800 437-3635, Ext. 3.



# DREMEL®

## DOVETAIL BITS 2 Flutes



1/4" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	ANGLE a	PRICE
C1068	3/8"	3/8"	1-3/4"	8°	\$500
C1069	1/2"	1/2"	1-3/4"	14°	\$500
C1071	3/4"	11/16"	2-1/8"	14°	\$700
1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	ANGLE a	PRICE
C1074	1/2"	1/2"	2-1/4"	14°	\$500
C1076	3/4"	3/4"	2-1/2"	14°	\$800

## COVE BITS 2 Flutes with Bearing Guide



1/4" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	RADIUS r	PRICE
C1141	1"	1/2"	2"	1/4"	\$1200
C1143	1-1/4"	5/8"	2-1/8"	3/8"	\$1400
1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	RADIUS r	PRICE
C1147	1"	1/2"	2-1/4"	1/4"	\$1200
C1150	1-1/8"	5/8"	2-1/2"	3/8"	\$1400

## ROUNDROVER BITS with Bearing Guide



1/4" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	RADIUS r	PRICE
C1175	7/8"	3/8"	2"	1/8"	\$1000
C1177	1"	1/2"	2"	1/4"	\$1100
C1179	1-1/4"	5/8"	2-1/4"	3/8"	\$1400
1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	RADIUS r	PRICE
C1184	1"	1/2"	2-1/4"	1/4"	\$1100
C1185	1-1/8"	1/2"	2-3/8"	5/16"	\$1200
C1186	1-1/4"	5/8"	2-1/2"	3/8"	\$1400

## ROMAN OGEE 2 Flutes with Bearing Guide



1/4" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	RADIUS r	PRICE
C1153	1-1/8"	1/2"	2-1/16"	5/32"	\$1600
C1154	1-1/2"	3/4"	2-1/4"	1/4"	\$1800
1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	RADIUS r	PRICE
C1155	1-1/8"	1/2"	2-1/4"	5/32"	\$1600
C1156	1-1/2"	3/4"	2-1/2"	1/4"	\$1800

## CLASSICAL BITS with Bearing Guide



1/4" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1289	1-1/4"	5/8"	2-1/8"	3/8"	\$2500
C1290	1-1/2"	3/4"	2-1/4"	1/2"	\$2500
1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1291	1-1/4"	5/8"	2-3/8"	3/8"	\$2500
C1292	1-1/2"	3/4"	2-1/2"	1/2"	\$2500

## SOLID CARBIDE SPIRAL 2 Flutes



1/4" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	PRICE	
C1441	1/8"	3/8"	2"	\$1500	
C1442	3/16"	5/8"	2"	\$1500	
C1454	7/32"	3/4"	2"	\$1900	
C1443	1/4"	3/4"	2"	\$1500	
1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	PRICE	
C1559	5/16"	7/8"	3"	\$2500	
C1446	3/8"	1"	3"	\$3000	
C1447	1/2"	1"	3"	\$3000	

Due to the nature of solid carbide, these bits are not warranted against breakage.

## DOUBLE FLUTED STRAIGHT BITS



1/4" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	PRICE	
C1001	1/4"	3/4"	2"	\$600	
C1002	5/16"	11/16"	2"	\$600	
C1003	3/8"	3/4"	2"	\$600	
C1004	1/2"	3/4"	2"	\$800	
1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	PRICE	
C1008	1/4"	3/4"	2-1/2"	\$600	
C1009	5/16"	3/4"	2-1/2"	\$600	
C1010	3/8"	3/4"	2-1/2"	\$600	
C1011	1/2"	1-3/16"	2-1/2"	\$800	

## REVERSIBLE STILE & RAIL

ROMAN OGEE (C1392)      BEVELED (C1653)

OGEE (C1652)

CLASSICAL (C1654)

1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	PRICE	
C1392	1-5/8"	13/16"	2-7/8"	\$4995	
C1652	1-5/8"	13/16"	2-7/8"	\$4995	
C1654	1-5/8"	13/16"	2-7/8"	\$4995	
C1653	1-5/8"	13/16"	2-7/8"	\$4995	

## 2-5/8" PANEL CUTTERS

5° FACE CUT (C1399)      15° FACE CUT (C1400)      OGEE (C1401)

12° FACE AND QUARTER ROUND (C1402)      CONVEX (C1403)

1/2" SHANK					
PART	CUTTER DIA. A	CUTTING LENGTH B	OVERALL LENGTH C	CUTTING WIDTH W	PRICE
C1399	2-5/8"	1/2"	2-1/4"	1-1/16"	\$2995
C1400	2-5/8"	7/16"	2-1/4"	1-1/16"	\$2995
C1401	2-5/8"	9/16"	2-1/4"	1-1/16"	\$2995
C1402	2-5/8"	7/16"	2-1/4"	1-1/16"	\$2995
C1403	2-5/8"	1/2"	2-1/4"	1-1/16"	\$2995

93C-107

ORDER 24 HOURS A DAY!

PHONE: 1-800-235-0272 EXT. 13

FAX: 1-800-392-5077



\$4<sup>50</sup> SHIPPING CHARGE ON ORDERS LESS THAN \$100<sup>00</sup>

**CASCADE TOOLS, INC.**

EXCLUSIVE DISTRIBUTOR OF



INDUSTRIAL CARBIDE TOOLING

# TIPS FROM YOUR SHOP (AND OURS)

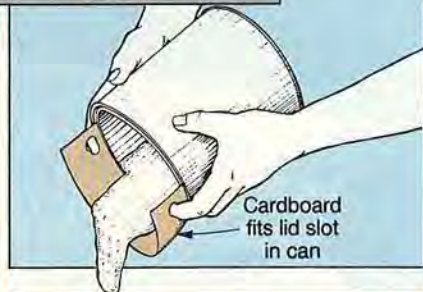
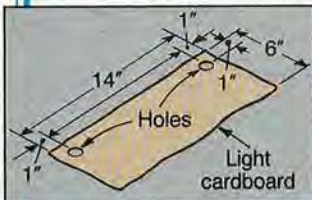
Continued from page 14

## Cardboard sanitizes messy paint pouring

Pouring paint or other finishing materials from a can practically guarantees a mess.

**TIP:** Reduce the dribbles and drips with a simple paint-can spout. Just cut a pair of 3/4"-diameter finger holes where shown on a 6x14" piece of cardboard. Then bend the cardboard into an arc and slip it into the lid groove around the top of the can. Hold the spout in place with a finger through each hole, shown below, as you pour.

-Darin Botts, Bloomington, Minn.



## MORE TIPS FROM OUR WOODWORKING PROS

• Keeping everything square while clamping together large projects can be tricky. Our plywood corner braces shown on page 43 make it easy. They hold the pieces square while you get all the clamps in place.

• Have a cabinet or tabletop that could use some pizzazz? Plastic laminate can help. See how we used it on page 45.

• Masking tape works great for holding mitered projects together while the glue dries. And, it keeps the glue from squeezing out. See how we taped the frame pieces for the outdoor light on page 71. 🍀

# HOME LUMBER CO.

449 WHITEWATER ST., WHITEWATER, WI 53190

FREE FREIGHT QUICK SHIP

Service, Quality, Price, TRY US!

1-800-262-5482

Prices Subject To Change

MasterCard Discover VISA C.O.D.

## Trakita

**6095DW**  
9.6V Cordless Driver Drill Kit Complete with Drill, Case, Battery & Universal Charger

List \$278

Sale \$125

- BO5000 5" Random Orbit Sander ... \$67
- 6201DWE 9.6 hi torque Cordless Drill Kit midhandle design, FREE Battery ... \$169
- LS1030 10" Miter Saw w/brake ... \$199
- 6011DW NEW 12V Cordless ... \$169
- 6211DW NEW 12V Kit ... \$179
- BO4650 Palm Sander ... \$49
- DA391D Cordless Angle Drill ... \$99
- 6070DW 7.2V VSR Drill Kit ... \$69

## QUALITY PNEUMATIC NAILERS

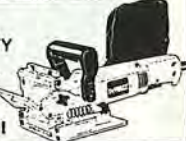
With Free Case  
1 Year Unconditional Warranty

- JF30 Brad Nailer Kit ..... 119.00
- Shoots 5/8" - 1 3/16 brads 18 ga.
- JF50 Finish Nailer Kit ..... 179.00
- Shoots 5/8" - 2" 18 ga.
- JF 64 Finish Nailer Kit ..... 259.00
- Shoots 3/4" - 2 1/2 16 ga. nails

Japanese Industrial Thin Kerf Carbide Blades	Dia	Teeth	Arbor	Price
	3 3/8	20	15mm	19.95
	4 3/8	40	20mm	24.95
	5 1/2	40	5/8"	26.95
	7 1/4	24	5/8"	14.95
	7 1/4	40	5/8"	18.95
	7 1/4	60	5/8"	26.95
	8 1/4	60	5/8"	39.95
	8 1/2	60	5/8"	39.95
	10	60	5/8"	49.00
	10	80	5/8"	59.00
	10	100	5/8"	79.00

## DEWALT

**DW682K**  
HEAVY DUTY PLATE JOINER KIT \$249



FREE CASE!

- Includes \$40 Worth of Biscuits
- DW945K2 12V Cds Drill Kit free batt ... \$179
  - DW944K2 9.6V Same ... \$159
  - DW318K Heavy Duty Jig Saw Kit ... \$159
  - DW412 1/4 sheet HD Palm Sander ... \$59
  - DW610 1 1/2HP HD Router ... \$159
  - DW705 12" Comp Miter Saw ... \$399
  - DW354 7 1/4 Circ Saw w/brake ... \$149
  - DW306K HD Recipro Saw 8A ... \$168
  - DW106 3/8 Drill w/Keyless Chuck ... \$69

## Sand-Rite

### Pneumatic Drum/Brush Head Sander

### Eliminate Tedious Hand Sanding!

Model No. DB-612

Sand irregular surfaces without loss of shape or detail.

Made in USA.

Pneumatic sanding drum. Available in five diameters, 2" to 8". Operator-regulated inflated drum conforms abrasive sleeve to contoured work.

Our nationwide dealer network serves you. To order, call Toll-Free 1-800-521-2318 or your nearest dealer or a Free brochure.

**Sand-Rite MANUFACTURING CO.**  
321 N. JUSTINE ST. ■ CHICAGO, IL 60607

## BOW BACK BENCH & CHAIR PLAN

\$14.85

2-Style Coffee Table 15 1/2" h x 19" w x 42" l  
2-Style End Table Plan 15 1/2" h x 19" w x 19" l \$12.85

### Specialty Furniture Designs

797 W. Remus Road, Dept. W-18  
Mt. Pleasant, MI 48858

Visa/MC/Discover MI add 4% Shipping costs included.  
Color catalog \$2.00 - FREE with order

## WARREN'S FINEST COMBINATION WHITTLETS/CARVERS KIT IN CUSTOM REDWOOD BOX

Introducing New concept 'Lock-Jaw' handles with 'Lock-Jaw' wrench

1993 WOOD SHOP SPECIAL #COMBI-TCE \$95.95 P.Pd. (USA)

Designed for wood-carvers who appreciate fine quality tools. (Made in USA) Est. 1927. Plus Free Pattern and Instruction Booklet.

Send Check or Money Order to:  
**Warren Tool Co., Inc.**  
2299-1 RI. 96,  
Rhinebeck, NY 12572  
Tel. (914) 876-7817 • USA only • COD UPS Available  
Canada and Foreign Please send Money Order U.S. Funds  
Canada Add \$3.00. Foreign Orders Add \$6.50 shipping fee.

COMBI-TCE CONTENTS:  
(8) Gouges\*  
(5) Small Blades\*  
(1) Large Blade\*  
\* All Honed Sharp  
(2) Handles (interchangeable)  
New concept:  
(1) ea. Walnut (Palm), and Rosewood  
(2) Sharpening Blocks  
(1) ea. Abrasive, and Leather

1993 Warren Woodworking Tool & Supply Catalogs FREE WITH ORDER. Catalog only, send \$1.00.  
\*N.Y. State Residents Add State Tax.  
Shipping Also Taxable

## Wood-Mizer

World's Largest Manufacturer of Portable Sawmills

Models from \$6995!\*

### Own a Sawmill!

**1-800-553-0219**

32-Page Full-Color Catalog \$2.00  
Business Profitability Booklet \$2.00  
65-Minute Demonstration Video \$10.00  
Mastercard or Visa Accepted  
\*Shown with optional trailer

Wood-Mizer Products, Inc.  
8180 West 10th Street, Dept. GG76  
Indianapolis, IN 46214-2400

## STEVE WALL LUMBER CO.

Quality Hardwoods and Woodworking machinery For The Craftsmen and Educational Institutions

Ash	4/4	Select	2.00
Basswood	4/4	Select	1.40
Birch	4/4	Select	2.00
Cherry	4/4	Select	2.65
Cypress	4/4	Select	1.75
Hickory	4/4	Select	1.65
Mahogany (Genuine)	4/4	Select	2.75
Maple (Hard)	4/4	Select	2.05
Maple (Soft)	4/4	Select	1.50
Pecan	4/4	Select	1.65
Poplar	4/4	Select	1.35
White OR Red Oak	4/4	Select	2.10
Walnut	4/4	Select	2.85
Cedar (Aromatic Red)	4/4	1C+Btr.	1.40
White Pine	4/4	F.G.	.95
Yellow Pine	4/4	Clear	1.30

Above prices are for 100' quantities of kilndried rough lumber sold by the Bd. Ft.  
FOB Mayodan, NC.  
Call for quantity discounts. Other sizes and grades available.

## STEVE H. WALL LUMBER CO.

BOX 287 • MAYODAN, N.C. 27027  
919-427-0637 • 1-800-633-4062 • FAX 919-427-7588

### UPS Specials

- ..... \$64.00
- ..... \$52.00
- ..... \$64.00
- ..... \$78.00
- ..... \$57.00
- ..... \$55.00
- ..... \$78.00
- ..... \$65.00
- ..... \$52.00
- ..... \$55.00
- ..... \$50.00
- ..... \$64.00
- ..... \$79.00
- ..... \$51.00
- ..... \$42.00
- ..... \$50.00

### LUMBER SPECIALS

#### MAHOGANY

100 Bd. Ft. Bundle #1  
Common S2S 13/16  
**\$175\***

#### CHERRY

100 Bd. Ft. Bundle 4/4 Log  
Run **\$95\***  
(\*FOB Mayodan Motor Freight Only)

Send \$1.00 For Lumber Catalog

# Inefficiency. Your best defense is a good saw fence.



When you order a Biesemeyer® T-Square® saw fence system, you get the best there is, and you get it for less. And it will fit any tilting arbor saw you can name.

Ever since we invented this smooth-gliding, heavy-gauge steel saw fence system, we've been offering it in a number of standard left- and right-hand cutting capacity combinations—some 36 choices in all. But we'll even customize a system for you, and there's no extra charge for the custom service.

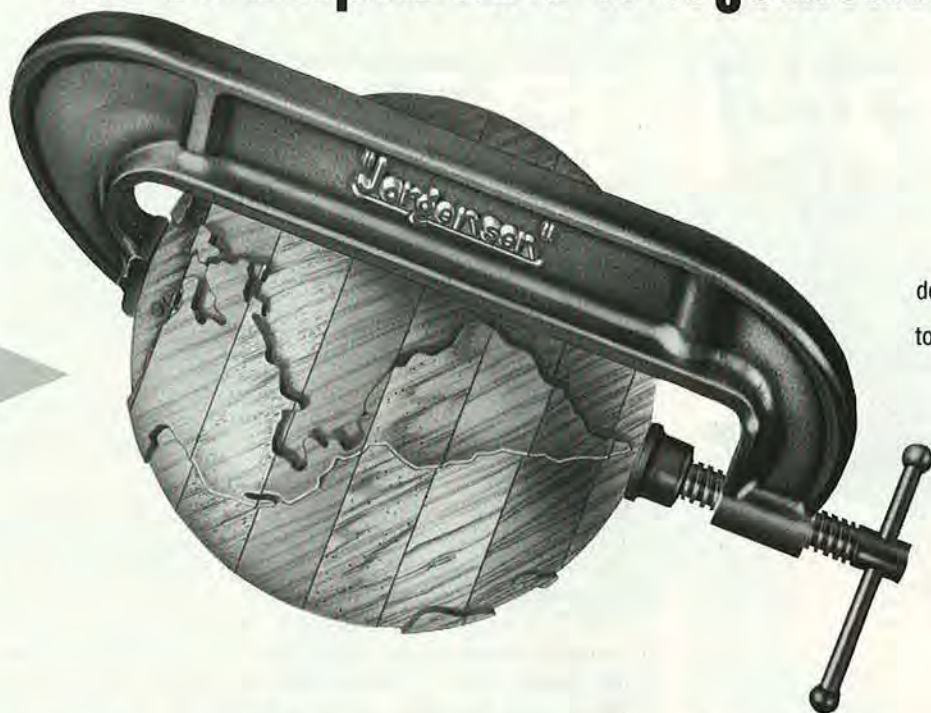
When you buy from the leader, you get top quality, locked-in accuracy and safety, cut after cut. You save from the beginning, and since the T-Square system has only two moving parts, repairs and adjustments are virtually eliminated, so you keep on saving—year after year.

Try the original T-Square saw fence system for 2 weeks. If you don't agree it's the best saw fence system money can buy, we'll gladly refund your money.

For more information or to find the nearest dealer, call 1-800-782-1831.

**BIESEMEYER®**  
It still costs less to own the best.

# We've helped hold it together... Since 1903



"Jorgensen"  
"Pony"  
Adjustable™

Quality in our products... dedication in our service. We've held to these commitments just as you've held up our Clamps and Vises as your standards to each new generation since 1903. We'll continue to hold consistently to our traditions of excellence.

Write for our Catalog SEND \$1.00  
Adjustable Clamp Company  
410 N. Ashland Avenue, Chicago, IL 60622

## ASK WOOD

 Print this article

Whether your woodworker's license reads "Beginner," "Intermediate," or "Advanced," you're bound to have a few questions about your favorite hobby. We can help by consulting our staff and outside experts. Send questions to:

Ask WOOD  
Better Homes and Gardens®  
WOOD® Magazine  
1912 Grand Ave.  
Des Moines, IA 50309-3379

### What are the metric conversions for wood?

At a woodcarvers' meeting, several of us were talking about buying wood using the metric system. What is a board foot in metric? How is thickness measured? Does plywood come in metric sizes? Will we be converting to metric soon?

—J.N. Kase, Houston, Texas.

We talked to Tom Johnston at the National Hardwood Lumber Association, Memphis. Tom said that the metric system is increasingly finding its way into the American lumber industry. Jim Kabler of Paxton Lumber Company in Des Moines concurs: "Most plywood now comes in thicknesses of milli-

eters, not the old standard fractions of inches. Slowly, the industry is shifting."

Johnston says, "While we are seeing more metric use, no standards of conversions have been set or adopted by the American lumber industry." And, Kabler adds, "It is not clear to me what should be used for the most basic standard of measurement. While consensus exists, our foreign buyers now order lumber in cubic meters (not board feet.)"

In the meantime, here are some common conversions to keep in mind for your next meeting:

#### Metric Conversion Table

1 millimeter equals .0394 inches ( $\frac{3}{64}$ " )
1 centimeter .3937 inches ( $\frac{25}{64}$ " )
1 meter equals 39.37 inches ( $39\frac{3}{8}$ " )
1 inch equals 25.4 millimeters
1 foot equals 3.048 decimeters
1 yard equals .9144 meters
<b>Lumber conversions</b>
1 cubic meter equals 424 board feet
1 board foot equals 2,359 cubic centimeters
<b>Plywood conversions</b>
6 mm or 15/64" or 1/64" less than 1/4"
12 mm or 15/32" or 1/32" less than 1/2"
18 mm or 45/64" or 3/64" less than 3/4"

Continued on page 20

# PERFORMAX'S

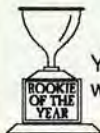


## "ALL STAR LINE-UP"

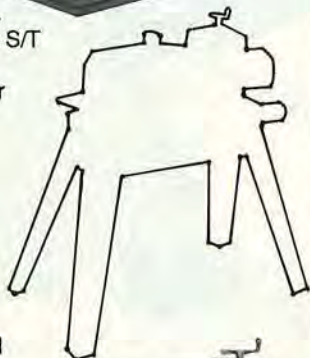


### Add a Proven Player to your shop.

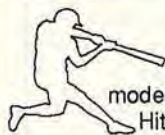
Our Lead-off Hitter, the Performax S/T Sander and Power Feed, adds fine-finish sanding capacity to your radial arm saw. The affordable price is an unbeatable value.



You'll be batting 1,000 with our Rookie of the Year. This new player is just being added to the roster. Its rookie card and stats will be available soon.



The PRO MAX III earns the MVP award. This complete player covers all the bases with its ability to sand pieces as wide as 44" and as short as 2 1/4".



The Super Max models are our Heavy Hitters. Models offer 25" or 37" single or dual drums. 5 HP motors, infinitely-variable conveyor speed and an easily-adjustable second drum make these models major league producers.



### Make this a winning season.

See Your Performax dealer for a demonstration on how you can finish more projects in less time. Call for player stats to sign on the player that is right for you.

1-800-334-4910 or (612) 895-9922

or write: **PERFORMAX PRODUCTS**, WD09  
12211 Woodlake Dr., Burnsville, MN 55337

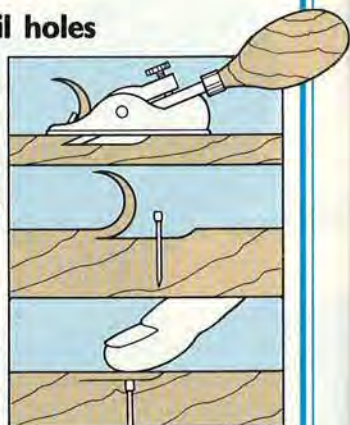
## ASK WOOD

Continued from page 19

### Hide those unsightly nail holes

I've had problems filling nail holes with both wood filler or plastic wood. When I stain after filling, the nail holes are always darker than the rest of the wood. (I work with mostly pine.) Dark nail holes can ruin a good project. What should I do to correct the problem?

—Bill Harper, Sandstone, Va.



Two filler products you might try, Bill, are Fix Patch

Wood and Durham's Rock Hard putty. According to WOOD magazine Project Builder Jim Boelling, both do well on pine. And you can find them at hardware stores and homecenters.

To get around using fillers, try out a special tool called a blind nailer. This tool will lift a chip from the board surface where you intend to sink a nail. Then, once the flap is created, tap in your brad or nail, and then glue the chip back down with fish glue—a super tacky glue that holds the flap without the need for clamps. You can order a blind nailer and fish glue for \$19.95 through The Garrett Wade Tools Catalog, 161 Avenue of the Americas, New York, NY 10013. Or call 800/221-2942.

### Glue problems have him stuck

Since woodworking for me is only a hobby, I do not consume a lot of glue. I have had trouble with aliphatic resin glue wetting the surface properly; it seems to ball up in the same way rubber cement would. I have tested the bonding strength and it seems to be okay. Am I doing something wrong? Can I add water to make it flow and wet the surface better? Does this type of glue have a shelf life? Is there a better way of storing it?

—P.W. Mason, Cincinnati, Ohio

Lots of good questions, P.W. First of all, "you can add water to aliphatic resin glue—up to 5 percent of its weight without losing bonding strength," says Derick Cooper, assistant products manager for Franklin International, manufacturers of Titebond and other glues. However, only add water if the glue appears thick. If your glue balls up, adding water won't help and there is nothing you can do. The glue may be too old. Most glues have a shelf life of two years. "Although," Cooper says, "you can increase that shelf life by storing the glue in an airtight glass container." That means actually pouring your glue from the plastic container it comes in, into a glass jar (a mayonnaise jar works fine) and sealing it using a metal lid with a rubber seal. ♣

# THE JOINT CHIEF.



The key to a plate joiner's performance is its fence. And that's what makes the DeWalt® plate joiner a real stand-out in its field. Because the DeWalt fence lets you make a great variety of joints and move with speed and precision from one kind to another.

**All the angles are covered with an integral fence which tilts 0-90.** The fence is calibrated from 0-90 degrees so you can make the cut at exactly the proper angle. The fence can also be located on the inside or outside of a mitered joint, according to your preference. In addition, flush cuts can be made at 0 degrees without having to remove the fence.

**Rack and pinion control provides easy, accurate height adjustment and keeps the fence parallel to the blade.** With this feature the risk of making an inaccurate cut is virtually eliminated. And this rack and pinion control is a feature unique to DeWalt.



Fence is quickly and accurately set to proper height and tilted to 90°.



Fence is quickly flipped back to 0° for flush cuts.



Fence allows location on the outside face of a mitered joint.



Fence tilts from 0°-90° to locate on the inside face of a mitered joint.

So if you haven't decided which plate joiner to get, you don't have to guess anymore. All you have to do is try DeWalt®. You'll add it to your staff immediately.

**DEWALT**  
**GUARANTEED**  
**TOUGH.**

To find your nearest retailer/distributor,  
call 1-800-4-DEWALT.

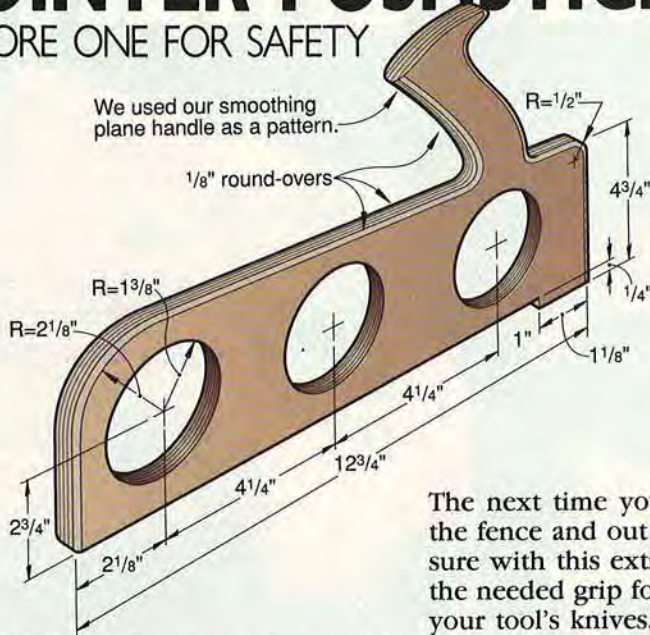
©1993 DEWALT INDUSTRIAL TOOL CO.

# GREAT IDEAS FOR YOUR SHOP

Print this article

## SURE-GRIP JOINTER PUSHSTICK

SCORE ONE FOR SAFETY

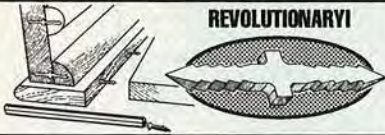


The next time you're jointing wood, keep your hand safely above the fence and out of harm's way while applying even "down" pressure with this extra-tall pushstick. A notched bottom edge provides the needed grip for pushing the wood smoothly and effectively over your tool's knives. ♣

Project Design: James R. Downing Illustration: Kim Downing Photograph: Wm. Hopkins

### DOUBLE 'T' FASTENER

REVOLUTIONARY!



- Wood joints without nails or dowels
- Attach trim & mouldings - no nail holes to fill
- For use in edge & butt joints
- Hold glue joints without clamping
- Use in place of biscuits
- For wood 3/4" or thicker

#58581 1 Pkg. Setting Tool + 80 Fasteners.....\$7.99

#58582 Pkg. of 50 Fasteners.....\$7.99

2 OR MORE PACKAGES - EACH.....\$8.49

SAVE!

Shipping \$1/pkg. - 4 or more SHIPPED FREE!  
Michigan residents add 4% tax.

GIFTS OF CREATION/FASTENER DIVISION  
P.O. Box 875 • St. Joseph, MI 49085-0875 • (616) 429-8818

### ROTO/CARVE®



ENGINEERED FOR PRODUCTION With ROTO/CARVE & your table saw make wood shapes fast, accurately, & profitably. Pattern duplicated in minutes.

- Chair Legs • Bed Posts
- Axe Handles • Etc.
- Manual or Automatic Drive

ROTO CARVE 2754 GARDEN AVE.  
JANESVILLE, IA 50647 • 319-987-2511

Video Sto

- Sander 2 1/2" x 60" Belt
- Horizontally Mounted
- Clear Working Area
- Soft Contact Wheels
- Quick Change of Belts, and Contact Wheels

WOOD CONTOUR SANDER



ROTO/SAND®

Make your shop complete with the



## Lion Miter Trimmer

Perfect miters, any wood, any angle 45°-90°  
As seen in "Wood".

POOTATUCK CORPORATION  
P.O. BOX 24 • WINDSOR, VT 05089

Made in New England 802/674-5984

### PLANS & KITS

- \* Patterns
- \* Parts
- \* Brass Glass
- \* Hardware
- \* Molding



Plans \$9.95

Hardware Kit \$189

Send \$1.00 for new catalog.

PLAN E1115

DREAMWOOD

Dept WD-7

275 Fairchild Ave. #103, Chico, Ca. 95926

## MAKE TOYS

CLOCKS & WHIRLIGIGS

Door Harps, Dollhouses, Music Boxes, and Dozens more fun Wooden Toys from our plans, parts, kits & supplies. Bulk Price available. Catalog \$1.00.

### CHERRY TREE TOYS

Box 369-335,

Belmont, OH 43718

1-800-848-4363, ext. 335

Heavy Duty Plate Jointer with Case  
\$225.95



DEWALT  
High Performance Industrial Tools

#DW682K

- DW705 ..... 12" compound saw .. \$359.
- DW704 ..... 12" miter saw ..... 319.
- DW945K-2 ..... 12v drill kit w/2 batteries ..... 169.
- DW944K-2 ..... 9.6v drill kit w/2 batteries ..... 149.
- DW364 ..... 7-1/4" saw with brake ..... 148.
- DW254 ..... 0-2,500 deck scrugun ..... 89.

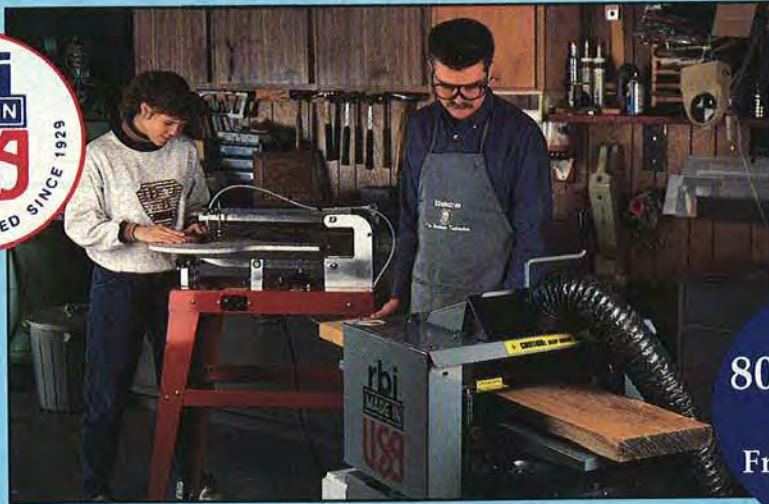
TOOL GRIB OF THE NORTH

P.O. Box 1716  
Grand Forks, ND 58206

1-800-358-3096



# No Better Value For Your Money.



Call  
**800-487-2623**  
for your  
Free Information

## The RBI Family of Woodplaners.

It's true. Ever since the first RBI Woodplaner came off the production line, experienced professionals and serious do-it-yourselfers have associated RBI Woodplaners with one thing.

### Quality.

That's because for over sixty years, the people who work with our woodplaners realize they are getting the best value for their money ... guaranteed.

RBI offers you three choices of versatile, high-quality, American made planers that will do the jobs you've always dreamed of. The RBI 612, 812, and 820 woodplaners quickly convert low-cost rough lumber into valuable finished stock.

RBI has the model that is just right for you, so you can buy exactly what you need.

**Our Guarantee To You.**

**30-Day In-Shop Guarantee**  
**3-Year Warranty (1 year on Motor)**



#### As a planer -

finish your own lumber to meet your exact specs, without paying custom milling fees.



#### As a gang saw -

gang-rip lumber accurately to your specifications with a finish as smooth as a joined edge.



#### As a sander -

replace hours of sanding with just one pass.



#### As a molder -

create special picture frames, crown moldings, window trim, and much more.

*Important! Cover removed to show Woodplaner.  
Do not operate machine without cover.*

## **rbi**industries, inc.

The American Toolmaker  
1801 Vine St. • P.O. Box 369  
Harrisonville, MO 64701

C34

**Call Today for FREE INFORMATION KIT! 1-800-487-2623**

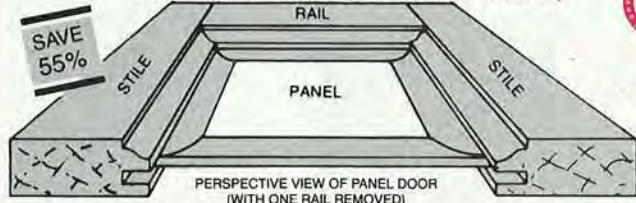
## MAKE BEAUTIFUL RAISED PANEL DOORS WITH YOUR . . . 1/4" or 1/2" ROUTER . . . 1/2" or 3/4" SHAPER

Professional production quality bit makes it quick and easy to produce matching rails and stiles — the panel raising bit with ball bearing guide makes the raised panel perfect every time.

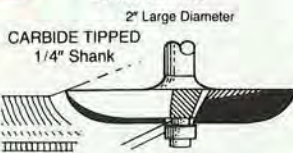
**SALE PRICE** **\$69<sup>95</sup>** Regular value over \$150.00!  
**FOR COMPLETE SET** 1/4" Shank set item #554 (includes both bits shown)

SET ALSO AVAILABLE IN 1/2" SHANK - \$79.95 - Item #852

Shaper Cutters set:  
 Item #1059  
**SAVE! only \$99.95**  
 Set: Rail & Stile & Raised Panel Cutters

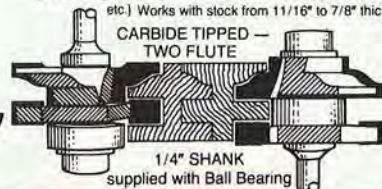


**RAISED PANEL BIT**  
 SUPPLIED WITH BALL BEARING



**REVERSIBLE COMBINATION Rail and STILE BIT**

(For making matching rails and stiles in raised panel doors, etc.) Works with stock from 11/16" to 7/8" thick



## CARBIDE TIPPED ROUTER BITS • PROFESSIONAL PRODUCTION QUALITY GUARANTEED WHEN ORDERING ANY THREE OR MORE DEDUCT \$1.00 EACH • FREE SHIPPING IN CONTINENTAL U.S.

ITEM NO.	BEST CUT BEST PRICE	DESCRIPTION	ANGLE/DEPTH/RADIUS CIRCLE DIAMETER	LARGE DIA.	CUTTING LENGTH	SHANK SIZE	PRICE
#601	Solid Carbide	1/8" Spiral Cutter		1/8"	1/2"	1/4"	\$ 9.00
#603		1/4" Spiral Cutter		1/4"	3/4"	1/4"	\$12.00
#903		1/4" Spiral Cutter		1/4"	3/4"	1/2"	\$12.00
#904		3/8" Spiral Cutter		3/8"	1"	1/2"	\$24.00
#905		1/2" Spiral Cutter		1/2"	1 1/2"	1/2"	\$29.00
#530		3/16" Edge Beading	3/16" Dia. of Circle		1/2"	1/4"	\$15.00
#531		5/16" Edge Beading	5/16" Dia. of Circle		1/2"	1/4"	\$15.50
#350		1/8" Round Over	1/8" R	3/4"	3/8"	1/4"	\$11.00
#351		3/16" Round Over	3/16" R	7/8"	1/2"	1/4"	\$11.00
#230		1/4" Round Over	1/4" R	1"	1/2"	1/4"	\$12.00
#353		5/16" Round Over	5/16" R	1 1/8"	1/2"	1/4"	\$14.00
#209		3/8" Round Over	3/8" R	1 1/4"	5/8"	1/4"	\$15.00
#355		1/2" Round Over	1/2" R	1 1/2"	3/4"	1/4"	\$17.00
#655		1/2" Round Over	1/2" R	1 1/2"	3/4"	1/2"	\$17.00
#656		3/4" Round Over	3/4" R	2"	7/8"	1/2"	\$21.00
#199		Multiform Moulding	Unlimited Patterns	2 1/4"	2"	1/2"	\$40.00
#205		1/4" Cove	1/4" R	1"	1/2"	1/4"	\$12.00
#206		3/8" Cove	3/8" R	1 1/4"	9/16"	1/4"	\$13.00
#207		1/2" Cove	1/2" R	1 1/2"	5/8"	1/4"	\$14.00
#643		1/2" Cove	1/2" R	1 1/2"	5/8"	1/2"	\$15.00
#208		3/4" Cove	3/4" R	1 7/8"	3/4"	1/2"	\$26.00
#231		5/32" Roman Ogee	5/32" R	1 1/4"	1 5/32"	1/4"	\$16.00
#232		1/4" Roman Ogee	1/4" R	1 1/2"	3/4"	1/4"	\$17.00
#506		1/2" Pattern	Flush Trim		1/2"	1"	1/4"
#508		3/4" Pattern	Flush Trim		3/4"	1"	\$17.00
#366		1/8" Slot Cutter	3/8" Deep	1 1/4"	1/8"	1/4"	\$14.00
#368		1/4" Slot Cutter	3/8" Deep	1 1/4"	1/4"	1/4"	\$14.00
#204		3/8" Rabbling	3/8" Deep	1 1/4"	1/2"	1/4"	\$13.00
#670		3/8" Rabbling	3/8" Deep	1 1/4"	1/2"	1/2"	\$14.00

ITEM NO.	BEST CUT BEST PRICE	DESCRIPTION	ANGLE/DEPTH/RADIUS CIRCLE DIAMETER	LARGE DIA.	CUTTING LENGTH	SHANK SIZE	PRICE
#211		3/8" Core Box	round nose	3/8"	3/8"	1/4"	\$10.00
#212		1/2" Core Box	round nose	1/2"	1 1/2"	1/4"	\$13.00
#418		3/4" Core Box	round nose	3/4"	5/8"	1/4"	\$15.00
#213		1" Core Box	round nose	1"	3/4"	1/2"	\$17.00
#548		Lockmitre		2"	7/8"	1/4"	\$32.00
#214		1/4" Straight	plunge cutting	1/4"	3/4"	1/4"	\$ 6.50
#216		3/8" Straight	plunge cutting	3/8"	1"	1/4"	\$ 6.50
#474		1/2" Straight	plunge cutting	1/2"	1"	1/4"	\$ 7.00
#219		3/4" Straight	plunge cutting	3/4"	1"	1/4"	\$ 9.50
#779		3/4" Straight	plunge cutting	3/4"	1 1/2"	1/2"	\$10.00
#462		1/2" Bull Nose	1/2" Dia. of Circle		3/4"	1/4"	\$16.00
#464		3/4" Bull Nose	3/4" Dia. of Circle		1"	1/4"	\$21.00
#764		3/4" Bull Nose	3/4" Dia. of Circle		1"	1/2"	\$21.00
#545		Tongue & Groove	Straight	15/16"	1"	1/4"	\$29.00
#845		Tongue & Groove	Straight	1 9/16"	1"	1/2"	\$29.00
#546		Tongue & Groove	Wedge	1 3/16"	1"	1/4"	\$29.00
#846		Tongue & Groove	Wedge	1 9/16"	1"	1/2"	\$29.00
#450		1/8" Beading	1/8" R	3/4"	3/8"	1/4"	\$11.00
#233		1/4" Beading	1/4" R	1"	1/2"	1/4"	\$13.00
#454		3/8" Beading	3/8" R	1 1/4"	5/8"	1/4"	\$15.50
#455		1/2" Beading	1/2" R	1 1/2"	3/4"	1/4"	\$17.00
#500		3/8" Flush	Trimming	3/8"	1/2"	1/4"	\$ 7.00
#501		3/8" Flush	Trimming	3/8"	1"	1/4"	\$ 7.50
#503		1/2" Flush	Trimming	1/2"	1"	1/4"	\$ 8.50
#221		1/2" Flush	Trimming	1/2"	1 3/16"	1/2"	\$ 8.00
#558		Thumbnail		1 9/16"	9/8"	1/4"	\$18.50
#858		Thumbnail		2 1/2"	3/4"	1/2"	\$35.00
#579		Molding Plane		1 1/8"	1 3/4"	1/4"	\$31.95
#879		Molding Plane		1 1/8"	1 3/4"	1/2"	\$31.95

FREE — NEW 32-PAGE CATALOGUE • While in the Philadelphia Area Visit Our Fully Stocked Showroom (call for easy directions)

### CONTROL THE SPEED OF YOUR ROUTER

ROUT AT THE SPEED THAT GIVES THE BEST RESULTS WITH THE WOOD AND BIT YOU ARE USING!



#### FEATURES:

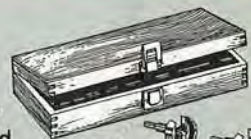
- Works With All Routers 3/4 HP or less - 120V 15 Amp.
- Full Horsepower and Torque at All Speeds.
- Gives Your Router a Feature Only Available on Routers Costing Hundreds of Dollars!



~~\$39.95~~  
**SALE**  
**\$29.95**  
 Order Item #197

### FORSTNER BITS For Perfect Holes

Forstner bits are designed to drill flat bottom or through holes cleanly in end grain, thin stock, veneers and regular stock. Comes with its own attractive wood box and includes the following sizes: 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 1 5/8", 1 3/4", 1 7/8", 2", 2 1/8".



Regularly \$99.95 **Special Sale \$79.95**  
**16 Piece Set** Order Set #314

©1993

To order by Master Charge, Visa, or Discover  
 Call Toll Free, 7 Day - 24 Hour Order Service

**1-800-533-9298**

or send check to: **MLCS Ltd.**  
 P.O. Box 4053 DU, Rydal, PA 19046



# TUPELO

## The wood that pioneer lumbermen left alone

In frontier America, much practical woodworking was done with an ax. If a tree couldn't be felled, bucked, and easily split with that one implement, it was left alone. Another more compliant specimen was harvested instead. That was why tupelo was at first shunned.

The tupelo tree grew throughout a wide range, but the hard wood with its interlocking grain was terrible to split. And unlike chestnut and oak, which could be air-dried successfully, tupelo wood twisted and buckled. So even commercial lumbermen avoided it.

Then, just before the 20th century arrived, a keen-eyed wood seller saw opportunity. The same tough qualities that made tupelo a logger's nightmare made the wood a superior material for workbenches, factory floors, and school furniture—anything that had to resist abrasion and splitting. Today, while most tupelo harvested goes for paper pulp, boxes, crates, and plywood cores, some winds up in the furniture industry. There, tupelo wood becomes chairs, cabinets, and store fixtures.

### Wood identification

Tupelo has many names. Pepperidge, swamp tupelo, cotton gum, bay poplar, and black gum all apply. Basically, though, there are only two kinds of tupelo: black tupelo (*Nyssa sylvatica*) and water tupelo (*Nyssa aquatica*). The commercial timber trade doesn't differentiate between them.



Black tupelo has the widest range, growing in lowlands where the ground is moist (*nyssa* means water nymph). Water tupelo prefers it even wetter in its limited range along the Gulf and in the Mississippi River bottoms (shown above by darker shading).

Of the two, water tupelo reaches a greater height (80–100') and diameter (3–4'). Both trees have reddish-brown bark, but that of black tupelo forms irregular ridges while water tupelo's appears scaly. The leaves of the two trees share the same oval shape, but those of water tupelo are normally larger. Each produces clusters of purple berries sought by wildlife.

Light yellow to tan in color and without significant figure, the wood of tupelo weighs from 25 to 45 pounds per cubic foot air-dry, depending on its origin. The lighter-weight wood comes from the water tupelo.



Natural range

While tupelo rates as moderately stiff, strong, and hard, it's also brittle. Wood cut from the enlarged buttresses of water tupelo tends to be softer and lighter, although no less brittle.

Tupelo's fine-textured, uniformly grained wood primarily comes from the tree's proportionately large amount of sapwood. Only edge bands of gray heartwood sometimes appear.

### Uses in woodworking

Today's woodworker can look to tupelo for longwearing furniture, cabinets, table and bench tops, natural and painted millwork, and turnings. Carvers find the softer, fine-grained wood of water tupelo perfect for details.

### Availability

In regions where tupelo is commercially sawn, it's sold for \$1.50 per board foot or less. Out of its natural range, tupelo lumber would be available only by special order through traditional outlets, although at a price less than yellow poplar, for example. Veneer isn't sold. You can, however, special order tupelo turning squares and carving blocks.

*Continued*

## tupelo

(*Nyssa sylvatica, aquatica*)

Tupelo

Although generally rated as no harder than black cherry, some black tupelo might surprise you with a toughness that matches hickory and requires power tools. A water tupelo board, though, may be as easy to work with hand tools as yellow poplar. Asking the seller about the wood's origin should give you a clue and possibly eliminate any surprises.

As long as you buy thoroughly seasoned tupelo lumber—letting someone else deal with seasoning quirks—working the wood shouldn't pose special problems. And staining and finishing won't be affected. *Just pay attention to these reminders:*

### Machining methods

- Because of tupelo's general hardness, carbide-tipped blades and other cutters become a must.
- The wood's brittleness requires feeding boards at a slight angle during planing.
- When ripping, remember to feed tupelo slowly, giving the blade time to throw out sawdust.

This also avoids heat buildup, which causes burning.

- Taking lighter cuts on tupelo when jointing it results in smoother surfaces.

- Use slower drill-press speeds, spurred bits, and a backing board when drilling this wood. Occasionally raise the bit from the hole to reduce the problem of burnishing the wood. (Glue doesn't adhere well to burnished wood.)

- To lessen the chance of chipping during shaping, take only light passes with your router.

- Tupelo responds to all glues equally well, if you make sure that the jointing surfaces are exceptionally smooth.

- Avoid cross-grain sanding on hard tupelo because you'll find that scratches resist removal.

- Tupelo doesn't split easily, but its hardness requires predrilling for screws and nails.

- You'll be happy with the results from all types of stains and finishes on tupelo. The wood also holds all paint well, and its light color is perfect for stenciling.

### Carving comments

Prior to the widespread use of inexpensive plastic floats on nets, ones carved of water tupelo served Gulf Coast fishermen for decades. And more recently, the wood has found great favor with realistic, decorative decoy carvers who rely on power equipment to remove wood.

- Begin with medium to light cutting burrs to power-carve tupelo. Otherwise the wood may chip.

- To carve the wood with hand tools, reduce the bevel on your gouges to 15°–20°.

- Tupelo holds details well, and burning tools easily make their mark in the wood.

### Turning tips

Tupelo has never proved popular with turners, except for practice. But if you want to give it a spin, make sure you turn only with sharp-edged tools to avoid tearing the interlocking grain. ♣

### SHOP-TESTED TECHNIQUES THAT ALWAYS WORK

*Any exceptions—and special tips pertaining to this issue's featured wood species—appear under headings elsewhere on this page.*

- For stability in use, always work wood with a maximum moisture content of 8 percent.

- Feed straight-grained wood into planer knives at a 90° angle. To avoid tearing, feed wood with figured or twisted grain at a slight angle (about 15°), and take shallow cuts of about 1/32".

- For clean cuts, rip with a rip-

profile blade with 24–32 teeth. Smooth cross-cutting requires at least a 40-tooth blade.

- Avoid using twist drills. They tend to wander and cause breakout. Use a backing board under the workpiece to reduce tearout.

- Drill pilot holes for screws.

- Rout with sharp, preferably carbide-tipped, bits and take shallow passes to avoid burning.

- Carving hardwoods generally means fairly shallow gouge bevels—15°–20°—and shallow cuts.

### TUPELO AT A GLANCE

Cost	\$ \$ \$ \$ \$
Weight	🐘 🐘 🐘 🐘 🐘
Hardness	T T T T T
Stability	▲ ▲ ▲ ▲ ▲
Durability	🕒 🕒 🕒 🕒 🕒
Strength	💪 💪 💪 💪 💪
Toxicity	☠️ ☠️ ☠️ ☠️ ☠️
Workability	🪚 🪚
Look-Alike	Jelutong


SignCrafters

Wood Sign Specialists

# NORTH-COUNTRY SIGNS



In Minnesota's lake land, young signmakers Brent and Carol Manley offer attractive options to billboards and neon.

 [Print this article](#)

**B**rainerd—it's the hub of central Minnesota's lake region. And local legend has it that the mythical logging giant Paul Bunyan and Babe, his equally huge blue ox, created the area's hundreds of lakes with their footprints. At least that's what poker-faced Minnesotans tell the summer tourists.

*Continued*

## NORTH-COUNTRY SIGNS

Who are strangers to argue the tale, though, when a multitude of billboards point the way to Paul Bunyan Land—an amusement park overseen by a 50'-tall statue of its namesake? More gigantic billboards lead them to numerous other non-fictional attractions, including motels and lakeside resorts, golf courses, restaurants, boat-and-bait houses, and souvenir shops. It's a tourist's heaven. And for Brent and Carol Manley, founders of a successful wooden-sign proprietorship they call Signcrafters, Brainerd is a signmaker's dream come true.

### Plenty of signs mean good times

"Billboards are good and bad," sighs Brent Manley. "When you drive into Brainerd, there are billboards everywhere. I don't like the looks of them myself, all lined up along the highway. And we don't do them, but we recognize that billboards are a necessary part of the business around here."

Brent knows what he's talking about. At 32, he has devoted himself to the local sign business—and all that goes with it—for six years. That means that he and his wife, Carol, 27, not only design and make signs, but 75 percent of the time they're responsible for installing them, too.

And installation requires bonding and licensing from each of the townships and municipalities that they serve. Consequently, Brent and Carol need to keep up with all the local sign ordinances, as well as those of county and state.

Six years ago, though, things were different for the sign partners. Brent and Carol were barely scraping by a little farther north, in the resort town of Bemidji. Brent worked in a cabinet shop. Carol had just completed her degree work in graphic design at Bemidji State. It was natural to team up in a wooden-sign business.

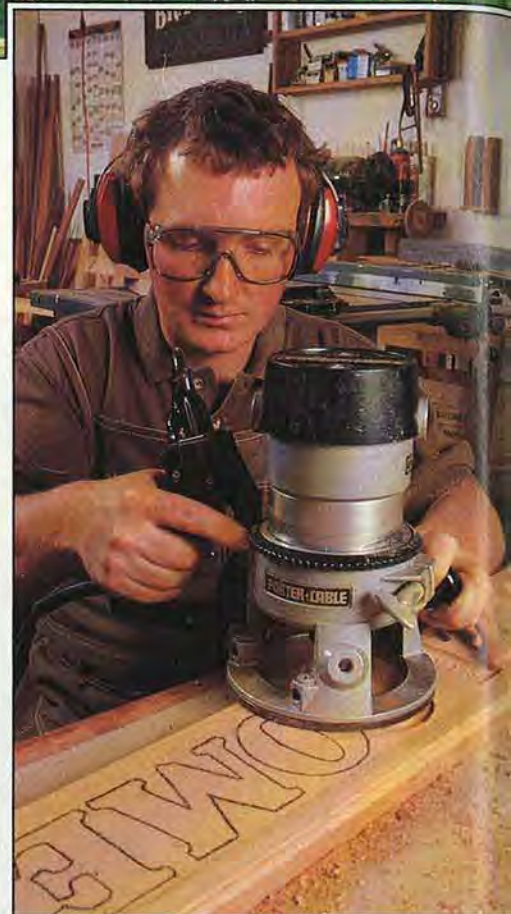
"Bemidji was a nice town," Brent comments. "But it doesn't have the market area of Brainerd. And there were already three sign businesses, all making the type of sandblasted signs we specialize in." So, rather than get involved in a bidding war for every sign, the couple decided to move.

But, with all the signs in evidence around Brainerd, isn't there a saturation point? "Here, there's always change," Carol responds. "I know of at least two businesses that aren't around this year that bought signs from us last year. There're always businesses changing hands. And along the line they change logos and names. The new owners want a different look. We know we're nowhere near to saturating the market."

"I'm not saying that every business should have one of our signs," Brent adds. "But there is a lot of room for improvement."

### Good design sells signs

The Manleys mostly cater to referrals from pleased commercial cus-



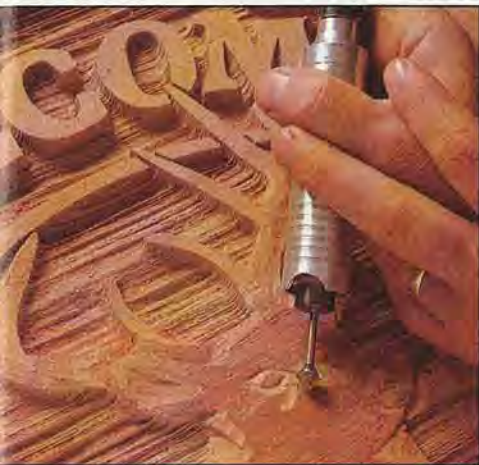
▲ Although Brent's specialty is sandblasting, he's adept at freehand routing, too. Here he works on a cedar sign.





tomers. There are still some drop-ins, though. "We tag all our signs with a nameplate that has our logo and phone number," says Carol, "so we do get follow-ups. We also send a brochure to a new business when we see their building going up, just to let them know we're here."

Few customers, however, know exactly what they want their sign to look like when they walk through the door. That's where Brent and Carol shine.



▲ On the usual sandblasted sign of redwood, the details must be created, then enhanced by hand with a flexible-shaft power carving tool.



◀ This SignCrafters' church sign along a main street in Brainerd exemplifies the compatible relationship between the sign and the means of mounting it. Brent builds tenons on the sign and cuts mortises in the posts.

"Our first emphasis with a sign is design," says Brent. "Because with signs—unlike a lot of other things—you can have poor workmanship, but if you have a good design with good colors, it still comes across as a halfway decent sign. On the other hand, if you have super-quality craftsmanship with a lousy design, you won't have an effective sign. We have to show the customers that we offer both craftsmanship and exciting design as well."

Price naturally comes up in customer conversations. And to the uninitiated, the reality is a shocker. "We pretty much quote a figure based on \$50 to \$60 per square foot," explains Brent. "That sends lots of folks out the door. But if it doesn't, we then can agree on a rough design," adds Carol, "and scale it out to the size they want—and what zoning will allow us to do."

"From there, we can add details, at additional cost, such as multiple designs, carved images, and gold leaf. Plain, bold letters will be on the lower end of the price scale, and lots of details on the higher end. We've done signs that cost \$70 per square foot."

"Then, of course, comes longevity," Brent chimes in. "We tell our customers that our sandblasted signs will last from six to eight years with only minimal maintenance, such as dusting and washing. So far, that hasn't been an unfounded claim."

### Sticking with proven weather-fighting wood

What wood can stand up to the elements of a north-central Minnesota winter? The same wood many folks select for lawn furniture and other outdoor projects: California redwood. Of course, western red cedar, cypress, and even teak would hold up, too. Yet, Brent has some pretty sound reasons for choosing redwood.

"Redwood tends to be more stable for sandblasted signs than the other common alternative, red cedar," the signmaker explains. "Too, redwood, especially the kiln-dried, vertical-grained, clear all-heart we buy, blasts out a lot better than red cedar. I get a better effect because it's a little more grainy—and brittle. Red cedar, on the other hand, blasts out a little flat [even], and because it's more close-grained, it takes almost twice as long to blast."

Brent special-orders his redwood stock from local lumberyards, but he occasionally runs across a windfall elsewhere.

"Out back behind the shop, I have a recycled redwood pile. It's the used lumber from an old redwood water tank that belonged to the railroad. I bid on it at an auction," says Brent as he opens the door and steps out. Picking up the end of a dirty gray board, he continues. "It was all discolored by weathering, such as you see here. But I scraped it with a pocket-knife and saw that it was clear vertical grain. Out of each 20' board, I got 17' of usable wood 8" wide and 2½" thick! Of course, I had to have it planed down to get the weathering off."

For most of their signs, though, Brent and Carol rely on lumberyard stock. But they learned how to shave costs. "I use 2×8" redwood boards and edge-join them for most of our signs," Brent notes. "I could join 2×12s, but the sign wouldn't be any stronger, and the wider stock would just drive the cost up."

What about construction-grade redwood? "We work with some construction grade," responds Brent. "It tends to be a little more rustic with the knots in it, yet it can be real attractive with the sapwood in there. But, it's not kiln-dried, and fresh out of the wrapper [off the truck or flat car] it's pretty wet. That means we

*Continued*

## NORTH-COUNTRY SIGNS



The 4×8' sign for this Brainerd-area lumberyard catches motorists' attention with its Northwoods' motif. It marks a near-hidden turn-in customers might pass.

have to store it for months, letting it dry out."

Recently, Brent discovered another alternative for sign stock: short redwood mill ends and cut-offs finger-joined into a 4×16' panel. "They're a full 2" thick, and sell for about \$400," he says. "If I bought boards and glued them into a panel of the same size, it would cost me \$530, not including my time!"

### Partners in craft: How a sign comes together

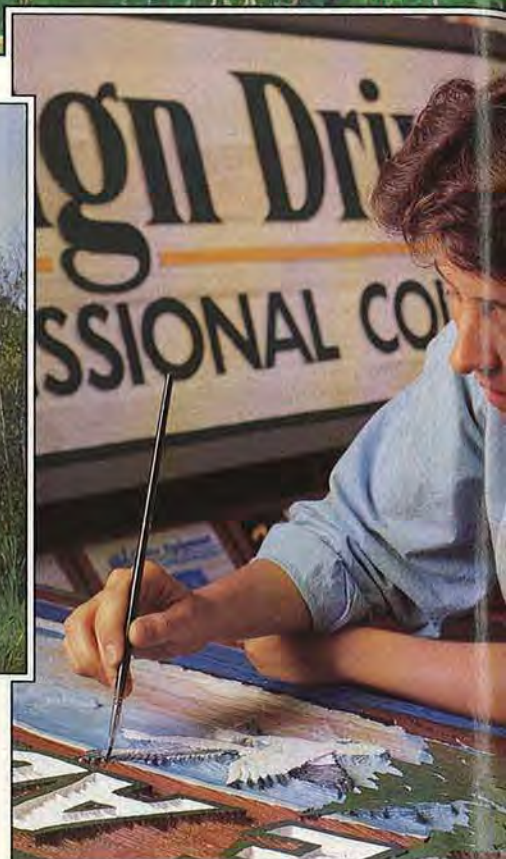
At Signcrafters, Carol and Brent share equally in sign design. When it comes to execution, however, they divide responsibilities. Brent does the woodworking. Carol handles the art.

Brent's woodworking skills first come into play during fabrication. That's when he cuts 2×8 redwood boards to length for a particular sign, then runs them through his 8" jointer. After that, he aligns the boards and joins them edge to edge with dowels. "I dowel them more for alignment than strength," Brent comments. "It just makes it easier to clamp them together."

For glue, Brent relies on Ultra-Bond, made specifically for the sign trade by Sign Life Products, as is much of the finishing material in the shop. "It's like Titebond," he says.

Once the glue dries in Brent's sign blank, he uses a router to shape a 1", full-length tenon on the ends. These will fit into mortises in the posts when the sign goes up. Finally, after sanding the blank down with 80-grit paper on his beltsander, he turns the sign-to-be over to his partner.

After perfecting the details of the sign design, Carol traces a full-sized pattern of it onto the resist—



a sheet of tough, adhesive-backed rubber—with the aid of an opaque projector. Now, she must transfer the pattern to the wood and ready the sign for Brent to carve by sandblasting. Follow the process in the photos below. (To try it, first read "Sandblasting," WOOD® magazine, April 1990.)

### Dealing with details before the sign goes up

If everything goes the way they like it to, Brent and Carol contract

## The making of a sign

**1** To transfer a pattern to the rubber resist, the signmakers use a pounce wheel. It perforates the outline of the letters on the paper.



**2** Going over the paper pattern with a pounce pad laden with colored chalk transfers the design image to the resist through the tiny perforations.







◀ Carol calls on her artistic talents to color and shade the various pictorial aspects of a local resort's logo sign.



▲ Twenty-two-carat gold leaf adds to a sign's appeal and expense. Brent lays it down, then burnishes it in place.

ing framework of posts or poles, too. That allows Brent to give the supports his special treatment.

"I don't sand redwood posts smooth," he says, patting the textured surface of a nearby post. "I either use rough-sawn posts or rub them up with 50-grit on the beltsander. That's because my concern is longevity. By abrading the wood, I give it more surface area for the finish to soak into and cling to. Laughing, Brent adds: "But I have to tell people that I really *do* know about finer grits!"

Fine finishing—and that includes painting—ranks high on the signmaking pair's priority list.

For if a finish fails, a sign fails, and so could their business. Brent describes their precautions:

"First of all, before we paint, I sand all the flat, non-blasted surfaces with 120-grit so that the primer and paint goes on smoothly. Carol then uses Chromatic and One-Shot enamels for the solid-color finish work—they're specifically formulated for the sign trade. For background stain she uses oil or latex."

Finally, there's the protective coat that seals the unpainted, natural part of the sign against the ravages of the elements. "We've always used Sikkens Cetol clear wood finish," says Brent. "With it, I have to apply two base coats of Cetol 1, followed by a coat of Cetol 23 Plus. Sikkens is marketed as an exterior finish for cedar and redwood homes, but we found out that it really holds up on outdoor signs."

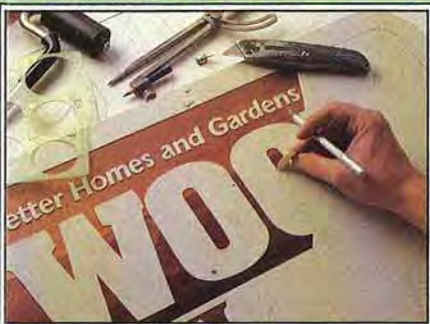
In fact, Brent and Carol's signs have an outstanding durability record. But what really holds up around Brainerd is what their signs can do. "We have certainly discovered how important signs can be to a business," says Carol. "They're without a doubt a cost-effective form of advertising, and definitely shouldn't be the last thing thought about when people go into business." 🌲

Written by Peter J. Stephano  
Photographs: Jeff Frey & Assoc.

to erect the sign, then they weigh the pros and cons of several support systems available. "For instance," says Brent, "we feel that on a big sign, the posts are part of the design package. A beautiful sandblasted sign hung between two skimpy steel posts or a pair of wobbly 2x4s ruins the whole effect. When the code says that the customer must use the existing posts, we're stuck."

But when Brent and Carol have their way, they plan out the hang-

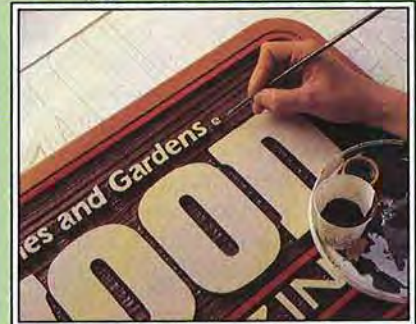
**3** An X-acto knife slices through the rubber resist along the design's letter outlines. Brent will sandblast the areas without the resist.



**4** With fine silica sand, Brent carves the redwood. The pressure-fed sandblaster attached to his compressor allows him to blast to a 1/4" depth.



**5** Carol takes over with enamels after sandblasting. Some signmakers paint the letters before blasting, but this way produces sharper letters.



# SEAFARER'S

## A TURNING THAT'S SURE TO MAKE WAVES

Don't let the nautical air of this turned teak timepiece surprise you. You see, **WOOD**® magazine's design editor Jim Downing designed and built it to hang in the cabin of his sailboat. He went with staved construction, allowing him to hide the end grain while including maple accents at 12 points around the clock. Whether on land or sea, this one's a winner.

### We used the following tools and supplies:

#### Stock

- ¾x4x30" teak
- ¾x1½x30" maple

#### Lathe tools

- 3-4" faceplate
- Spindle gouges, ¼", ½"
- Skew, ½"
- Parting tool

#### Lathe speeds

- Roughing: 500-800 rpm
- Finishing and sanding: 1,200-1,500 rpm

Rip two 1½"-wide pieces from a ¾x4x30" teak board. Laminate them with epoxy glue to make 1½x1½x30" material for the body staves. Important: When gluing teak, wipe the joint surfaces with acetone to remove the wood's natural oils. Let the acetone dry before gluing the joint.

Next, rip a ¼"-thick strip from a ¾x1½x30" piece of maple. Uniform thickness is critical for this strip—any taper or waviness will cause problems when you glue up the clock blank.

To rip the thin strip safely and accurately on a tablesaw, cut it on

the outside of the blade rather than between the blade and the rip fence. (See "The Safe and Simple Thin-Strip Ripper," *WOOD*® magazine, September 1991, page 58, for a jig that makes the job easy.) Crosscut 12 pieces 2" long from the strip.

### OK, let's saw the staves

To miter-cut the body staves, equip your tablesaw with a miter gauge and auxiliary fence. (Or use a sliding-table jig.) Set it to cut a 15° angle, and place a stopblock for a 2" cutting length. (See the setup on the *opposite page*.)

Before cutting the teak, test your setup for accuracy. Saw a 15° angle on one end of a piece of scrapwood. Flip the workpiece to place the opposite edge against the miter gauge. Push the mitered end against the stopblock, and cut, forming a wedge-shape piece.

Saw three scrapwood staves, and assemble them into an arc. Confirm with a try square that the angle between the ends is 90°.

Now, miter-cut the 12 teak staves for the clock body. To keep the grain on the clock-body rim consistent, flip the stock to saw the pieces as shown in the *Sawing the Staves* drawing. Number each one as you cut it.

Dry-assemble the body, placing the staves in order. Then, slide a ¼" maple piece into each joint. Epoxy the body together and secure with a band clamp.

### Fix up a faceplate

Attach a ¾x8"-diameter scrapwood auxiliary faceplate to your lathe's faceplate. Turn the face true, and mark concentric circles on it about ½" apart.

Place the staved body blank on a piece of ½"-thick stock. Trace around the inside blank opening with a sharp knife or scratch awl.

Scrollsaw or bandsaw around the line to form a plug that fits snugly into the blank opening.

Screw the plug to the auxiliary faceplate, centered inside the nearest concentric circle. Place the body blank over the plug, and secure it with spots of cyanoacrylate adhesive.

### Everything's shipshape now

With the ½" gouge, round the blank to 7" diameter. True the cylinder with a skew. Cut in to the diameters shown on the full-sized pattern with a parting tool.

Remember, the cutting depth from the side of the blank will be only one-half of the difference between the diameters. To establish a 5" diameter, for example, cut in 1" on the 7" blank.

Now, turn the outside to the profile shown. The ¼" and ½" spindle gouges will do the job. Sand the turning with progressively finer grits from 120 to 400.

Turn the inside opening to 4½" diameter to accept the clock movement. Before turning down to the mounting plug on the faceplate, form a rabbet for the clock bezel by turning the opening to 4½" diameter ⅜" deep.

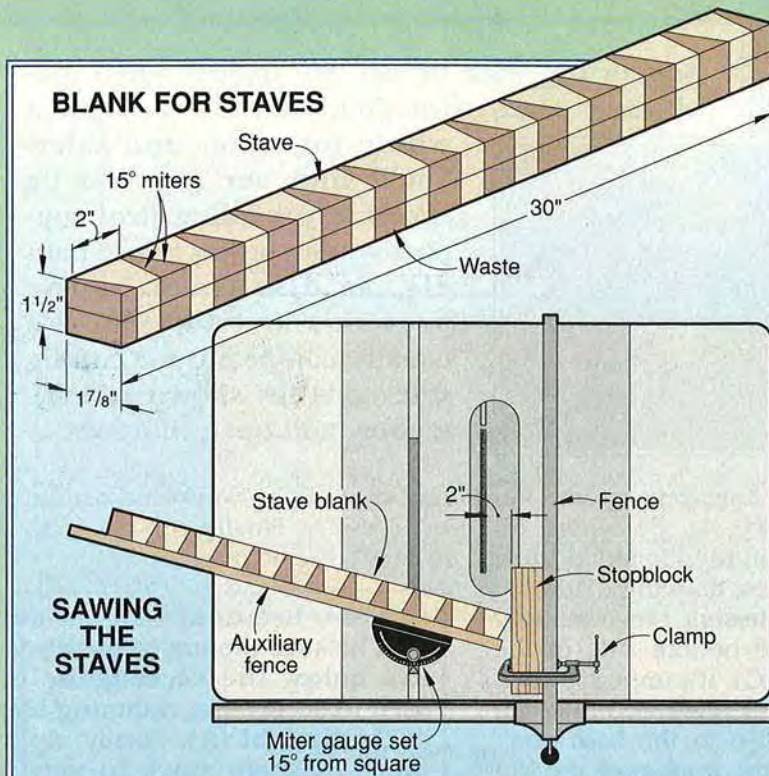
Continue turning the 4½" inside diameter until you free the clock body from the faceplate. Complete the inside opening with a flush-trimming bit in a table-mounted router.

Rout a keyhole slot on back of the clock for hanging. Center it on one of the maple strips. Apply a clear finish, and insert the clock movement into the body.

### Buying Guide

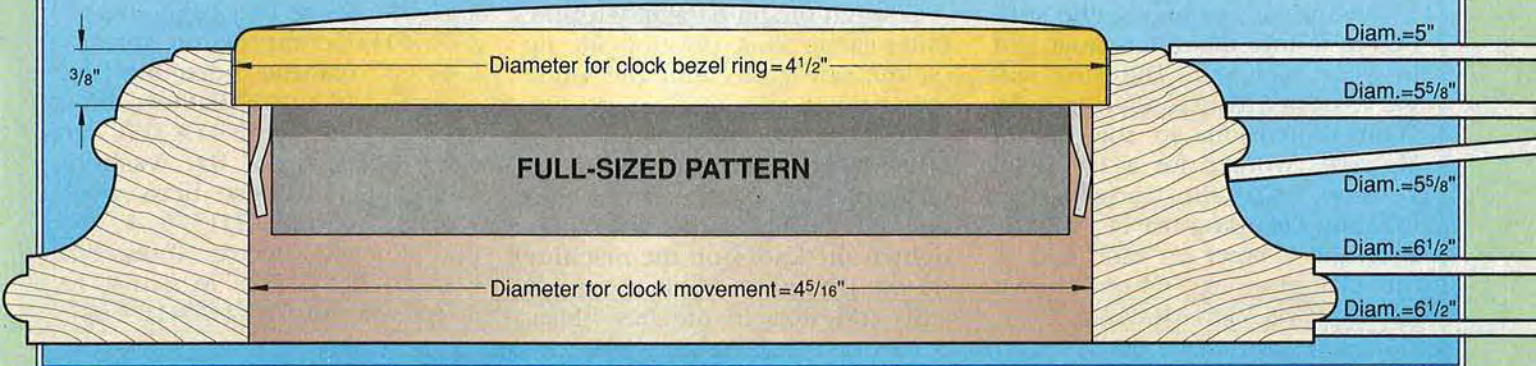
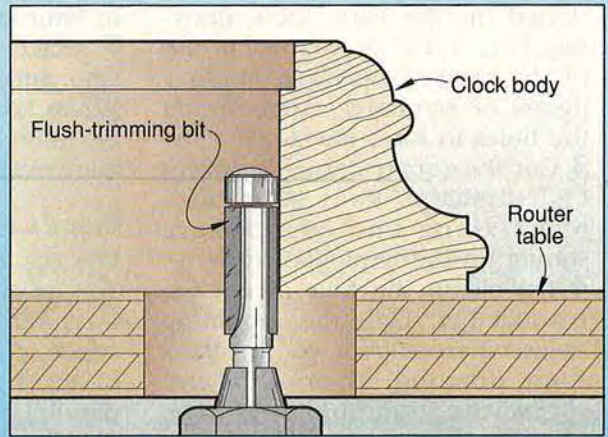
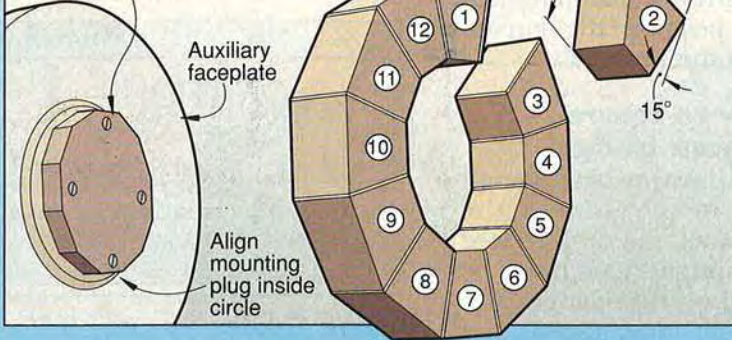
**Clock.** Insert with month, day, date, and moon dials. Product no. 71160, \$48.50 ppd. in U.S. Klockit, Box 636, Lake Geneva, WI 53147, call 800/KLOCKIT. ♣

# CLOCK



## BLANK ASSEMBLY AND MOUNTING

1/2" stock cut to fit inside opening of blank



# HIGH <sup>AND</sup> MIGHT



Supporting wide or tall workpieces when machining edges with your tablesaw just got a whole lot easier and safer. You'll find our plywood jig excels at providing firm support when cutting raised panels, as discussed in the previous article. And it's equally competent for cutting stile ends (as shown at left), tenons, and open mortises.

## First, let's build the jig

**1** Cut the base and upright (A) to the size listed in the Bill of Materials. (We cut ours from  $\frac{3}{4}$ " birch plywood.) Cut and sand a  $\frac{3}{4}$ " radius on two corners of each piece where shown on the Exploded View and Parts View drawings.

**2** Mark the slot locations on the top face of the base where dimensioned on the Parts View drawing. Drill a  $\frac{5}{16}$ " hole at each end of the marked opening. Using a jigsaw or scrollsaw, cut between the holes to form the slots.

**3** Cut the square-cornered braces (B) to shape. Rout  $\frac{1}{4}$ " roundovers along one edge where shown on the Exploded View.

**4** Dry-clamp the four pieces (A, B) together. Drill the mounting holes where shown on the Parts View drawing. Then, glue and screw the assembly together, checking that the upright is square to the base.

**5** Cut the miter-gauge guide strip (C) to fit into the miter-gauge slot in your tablesaw. The size will vary, depending on your saw. (Our dimensions in the Bill of Materials worked for a 10" Delta Unisaw.) Cut the upright stop (D) and clamping bar (E) to size. Belt-sand a taper on each end of the clamping bar where shown on the Parts View drawing.

**6** Mark the hole centerpoints on each piece (C, D, E) where dimensioned on the Exploded View and Parts View drawings. Drill the holes. Countersink the mounting holes on the bottom side of the guide strip (C). It's important that the machine screws used to fasten the guide strip to the base don't rub against the bottom of the slot in your saw table.

**7** Attach the guide strip, upright stop, and clamping bar to the jig. When fastening the clamping bar, be sure to position the curved edge next to the upright.

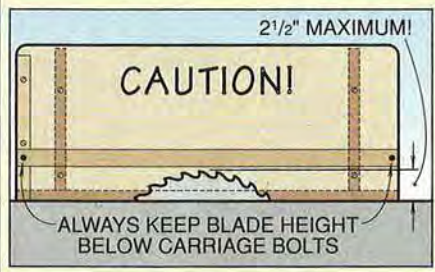
## Here's how to square the jig to your blade

To prevent burning and rough cuts when bevel ripping the edges of a panel, the outside face of the jig upright (A) must be parallel to the miter-gauge slot. The jig upright must also sit at a right angle to the saw table.

To align the jig parallel with the miter-gauge slots, position the jig on the saw table with the guide strip (C) in the miter-gauge slot. Then, align the jig parallel to the other miter-gauge slot. Do this by measuring the distance from both ends of the jig to the slot. Then, tighten the knobs on the machine screws that go through the guide strip and slots in the base. Mea-

sure carefully to verify and realign as necessary. Finally, test-cut scrap to verify the alignment.

**Caution:** Before turning on the saw, be sure the top of the blade lies below the carriage bolts used to secure the clamping bar to the upright (A). Finally, rip a piece of scrap stock to verify alignment. If the piece burns or binds, recheck your measurements and adjust accordingly.

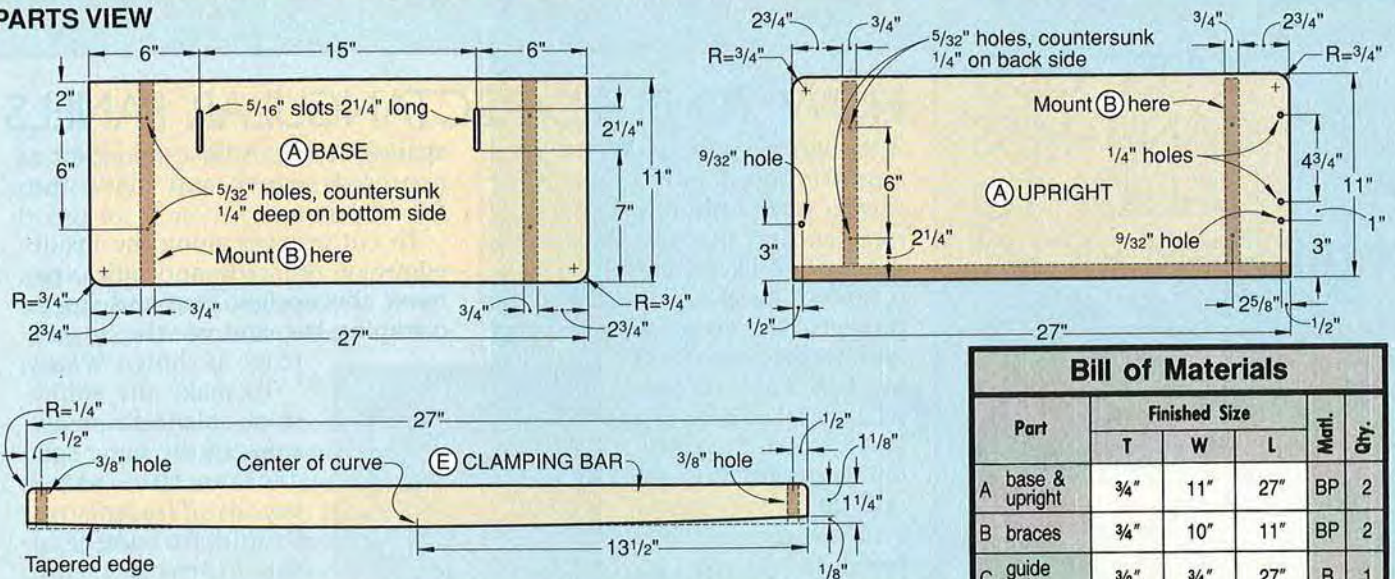


## Buying Guide

• **Jig hardware.** 4-2" plastic knobs, 2-# 10-24 T-nuts, 2- $\frac{3}{8}$ " x  $\frac{1}{8}$ " compression springs, 2- $\frac{1}{4}$ " x 2" flathead brass machine screws, 2-# 10 x 1" flathead brass machine screws, 2- $\frac{1}{4}$ " x  $3\frac{1}{2}$ " carriage bolts, 6- $\frac{1}{4}$ " flat washers, 8-# 8 x  $1\frac{1}{2}$ " flathead brass wood screws. Stock no. TJ1575, \$15.75 ppd. Puckett Electric Tools, 841 Eleventh St. Des Moines, IA 50309, or call 515-244-4189. ♣

# HTY TABLESAW JIG

## PARTS VIEW

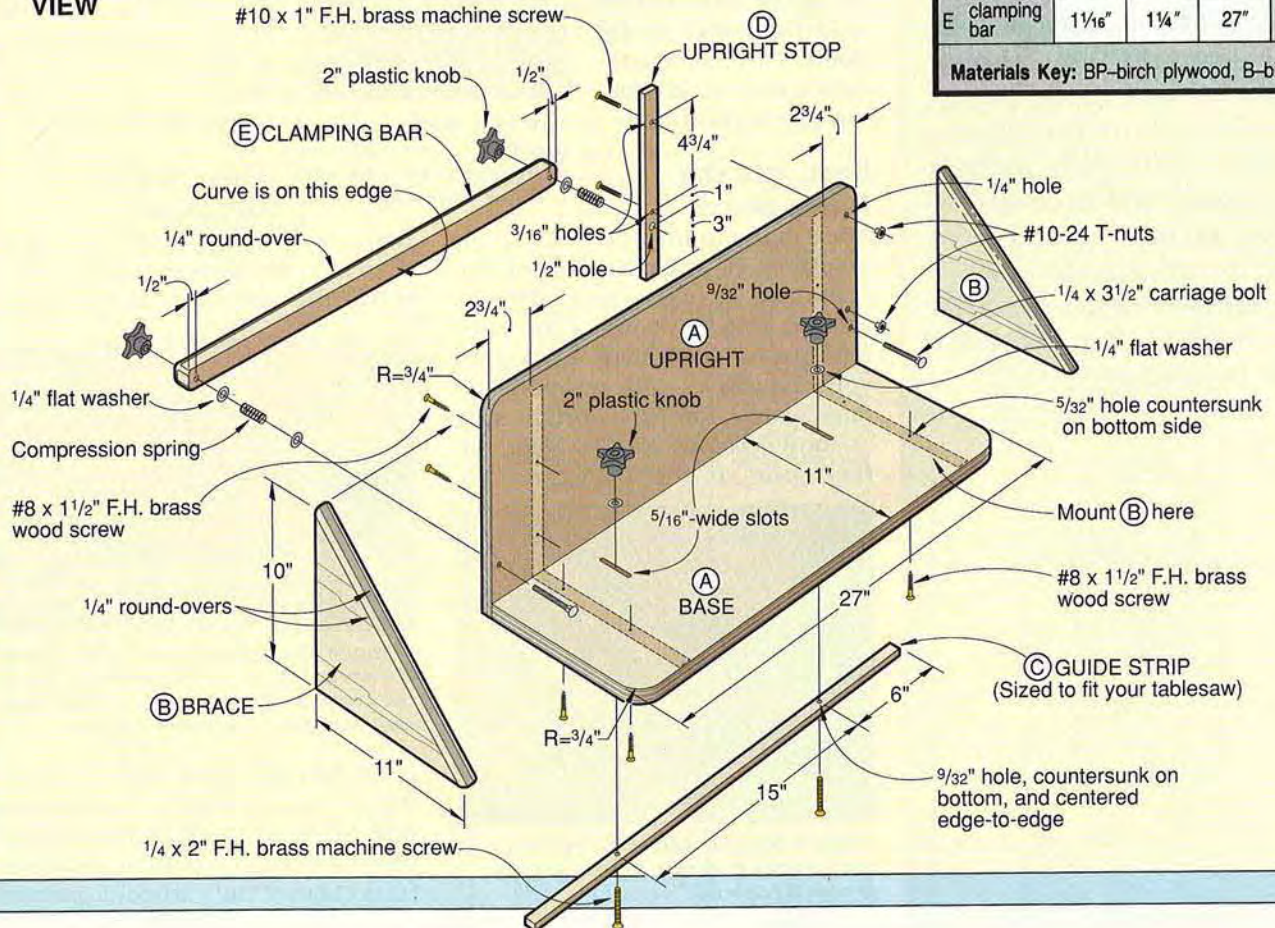


## Bill of Materials

Part	Finished Size			Mater.	Qty.
	T	W	L		
A base & upright	3/4"	11"	27"	BP	2
B braces	3/4"	10"	11"	BP	2
C guide strip	3/8"	3/4"	27"	B	1
D upright stop	1/2"	1"	10"	B	1
E clamping bar	1 1/16"	1 1/4"	27"	B	1

**Materials Key:** BP—birch plywood, B—birch

## EXPLODED VIEW



# HIGH-STYLED

# RAISED PANELS AND

USE OUR  
CAN'T-MISS  
GUIDE TO  
MAKE 'EM RIGHT



For centuries, both woodworkers and the general public have viewed raised panels as a hallmark of fine craftsmanship. And with today's power tools and accessories, they're easier than ever to make. In this article we'll share the techniques for making several versions of these classic beauties.

 Print this article

## HOW TO BUILD RECTANGULAR PANELS

Although easy to build, the rectangular raised panel and frame shown in the photo and drawing *right* and on the *next page* offers the type of clean looks that make it perfect for many woodworking projects. To make such a panel and frame, you first need to build the simple tablesaw jig shown on *page 34*. Once made, this jig will help you safely and accurately cut panel bevels that require minimal clean-up. You'll also use it to cut the grooves that hold the panel in the frame. Now, let's construct this great-looking panel and frame.

### First, cut the frame pieces

After determining the outside dimensions of your frame, cut the rails and stiles to size. To cut grooves into the ends of the rails, mount a  $\frac{1}{4}$ "-wide dado blade into your tablesaw, and position the rails against the jig's upright stop as shown *below*. Always place the face side of the frame pieces



Position the rail against the upright stop and clamp it down before cutting a groove in its end.

against the jig. Adjust the jig for a centered groove and make the  $\frac{3}{8}$ "-deep cut.

To cut grooves along the inside edges of the rails and stiles, remove the upright stop and stock-clamping bar, and use the jig as a fence as shown *below*.



You can make a raised panel and frame like this with just your tablesaw and our handy jig.

To make the spline stock, plane or resaw stock of the same species as the frame pieces. The splines should fit snugly in the grooves. If the splines will be visible in your finished frame (as with a cabinet door), make them a little long and trim them flush after assembling the frame.

### Now, make the panel

Before you start cutting your panel to size, spend some time examining the grain orientation and



Remove the upright stop and stock-clamping bar from the tablesaw jig to cut grooves along the edges of the rails and stiles for your panel's frame.

color of your stock. For example, if you make a narrow panel from one piece of stock with a cathedral (inverse V) pattern, be careful to center the cathedral pattern

# FRAMES



on the panel. If you use several pieces, cut them from the same board for a close color match.

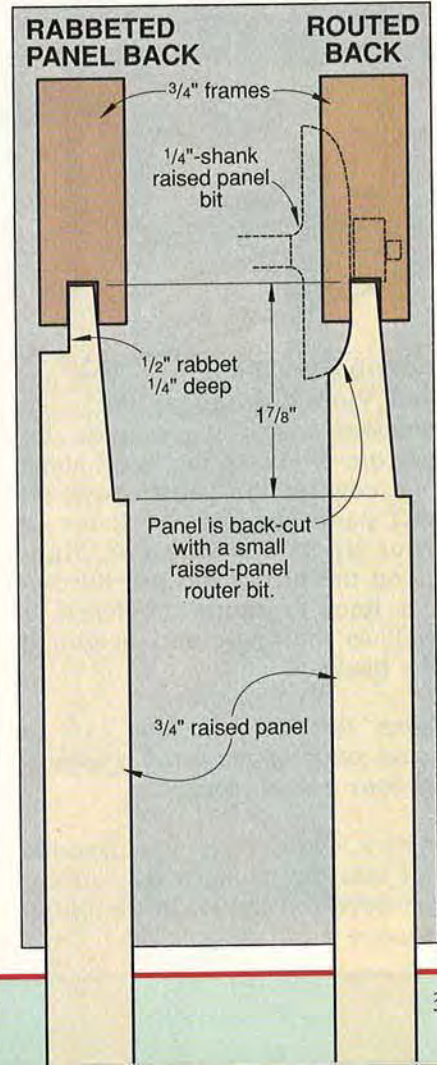
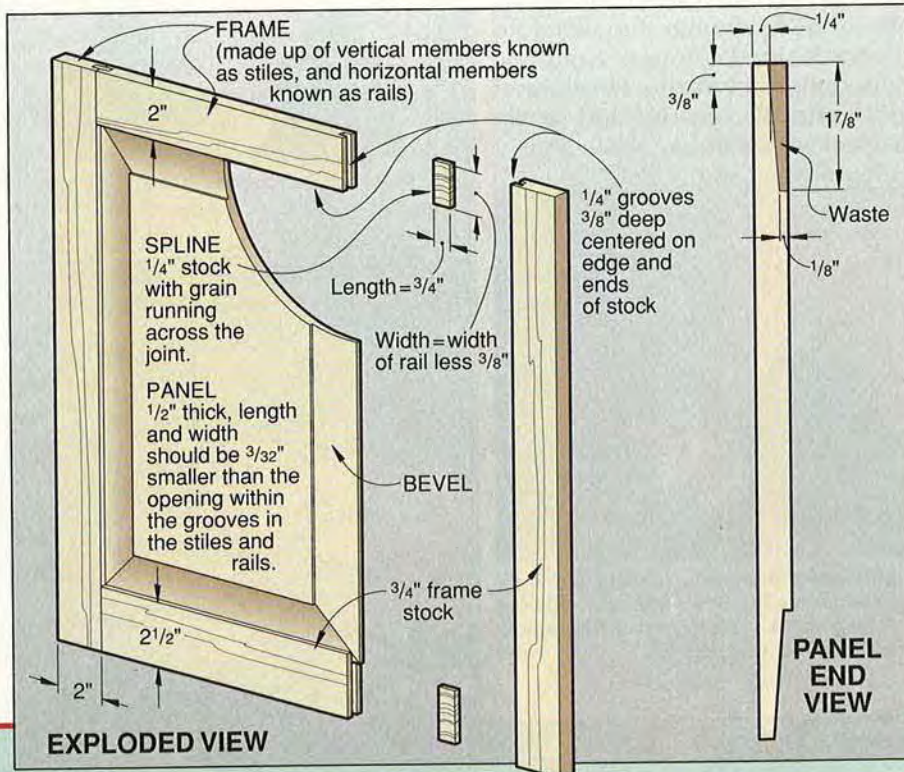
**Note:** For dimensional stability we suggest that you make up your raised panels from stock no wider than 8".

If you don't have access to 1/2" thick stock, or the means to plane thicker stock to 1/2" thickness, you can make the panel from 3/4" stock. However, the face of the panel will be 1/4" higher than its surrounding frame—generally an undesirable look, unless you level the panel's front by either of the following two methods.

First, you can rabbet the back side of the panel as shown in the example *right*. This leaves a square groove around the inside perimeter of the frame, on the back side of the panel.

For a decorative alternative to this square rabbet, try backcutting the panel with a small (2" diameter with 1/4" shank) panel-raising bit such as the model shown *right*. See the Buying Guide on page 41 for a source for this bit.

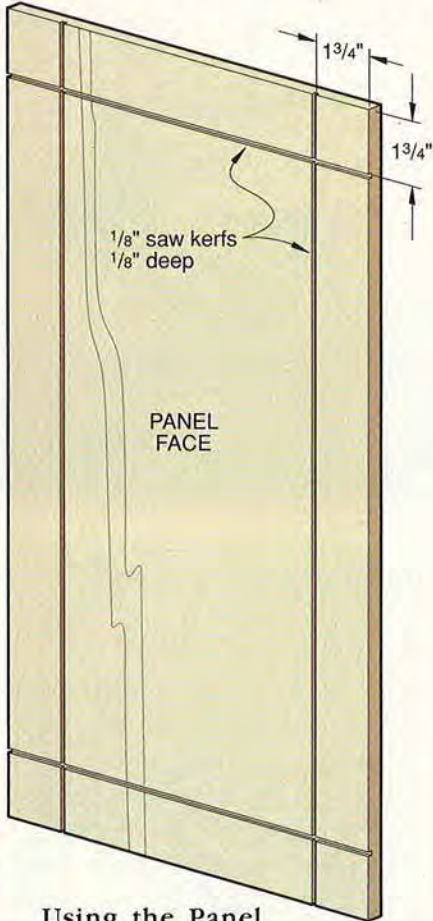
*Continued*



# RAISED PANELS AND FRAMES

## Here's how to cut the bevels

After cutting your panel to its finished size, adjust your tablesaw's fence  $1\frac{3}{4}$ " from the blade. Cut  $\frac{1}{8}$ " kerfs,  $\frac{1}{8}$ " deep along all four sides of the panel's face as shown in the illustration below.



Using the Panel End View drawing on the *previous page* as your guide, lay out the profile of the bevel along one edge of the panel. Now, set this panel against the fence of your jig as shown *right*. Sight along the blade, and use the layout lines to adjust the fence as well as the angle and height of the blade.

**Note:** Test the following cuts in scrap stock of the same thickness as your actual workpiece.

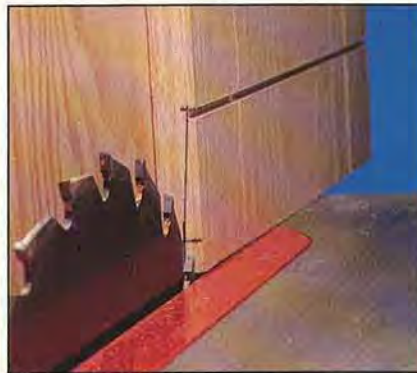
Now, clamp your panel faceside out into the tablesaw jig and cut the bevels as shown in the photo

on the *previous page*. Make the end-grain cuts first. These deep cuts require a sharp, 24-tooth ripping blade. If you have a saw of less than  $1\frac{1}{2}$  hp you may need to use a thin-kerf blade to maximize your saw's power. Move the panel through the blade at a consistent speed, slowing down only if the blade slows.

## And now for the finishing touches

Because the jig holds the panel firmly during the bevel cuts, you should notice few, if any, sawtooth marks. Remove marks on the top and bottom bevels with 100-grit sandpaper and a hardwood sanding block. Finish-sand the top and bottom bevels with a block and 150-grit abrasive. Now, repeat this procedure on the side bevels. Doing it this way gives you maximum control over stock removal. Be careful not to sand away the ridge at the intersection of the two bevels.

Dry-clamp the panel and frames to check for fit. Disassemble the pieces and apply stain to both sides of the panel. This way, any seasonal contraction of the panel will not reveal unfinished areas. Then, glue and clamp the frame assembly, allowing the panel to float within the frame. Sand the rails and stiles flush. Finish-sand and stain the frame, and apply your clear finish.



Sight along the blade to adjust the jig and blade for the bevel cut. Test this cut in scrap stock. (We removed the stock-clamping bar for clarity.)



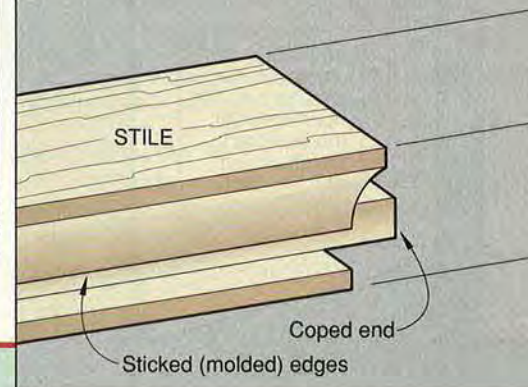
A  $\frac{3}{8}$ " round-nose router bit helps you create a panel with a decorative flair such as this one.



Frames with cope-and-stick joinery look great and go together in a jiffy.



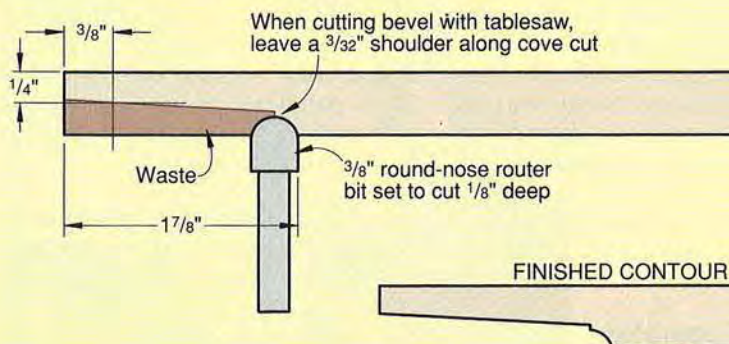
Two-piece rail-and-stile router bit sets such as these make simple work of cope-and-stick joinery.





## ADD A LITTLE PIZZAZZ TO YOUR PANEL

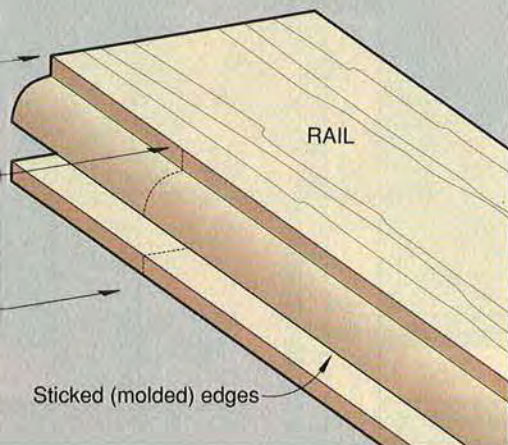
You can dress up the panel described in this section by routing grooves in the face of the panel with a  $\frac{3}{8}$ " round-nose bit (also known as a core-box bit). These grooves take the place of the  $\frac{1}{8}$ " saw kerfs described earlier. After cutting the grooves to a depth of  $\frac{1}{8}$ " according to the drawing *right*, cut the bevels with your tablesaw. This results in a panel like the one *left*.



## COPE-AND-STICK JOINERY

Nearly all commercially produced raised panels have frames with cope-and-stick joinery, such as the example *left*. To make cope-and-stick frames, you'll need a matched rail-and-stile router bit set like the set shown *left*. Such sets cost \$100 or more, but offer you several time-saving and aesthetic advantages.

As shown in the drawing *below*, cope-and-stick frames do not require splines because the coped ends fit snugly into the stiles, and provide ample gluing surfaces. And, the bead along the inside of the frame provides a nice transition from the frame to the panel. To find out more about these sets, see *page 53* of the January 1993 issue of *WOOD*® magazine.

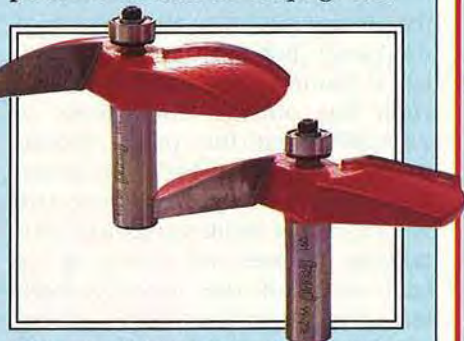


## HOW TO RAISE PANELS WITH ROUTER BITS

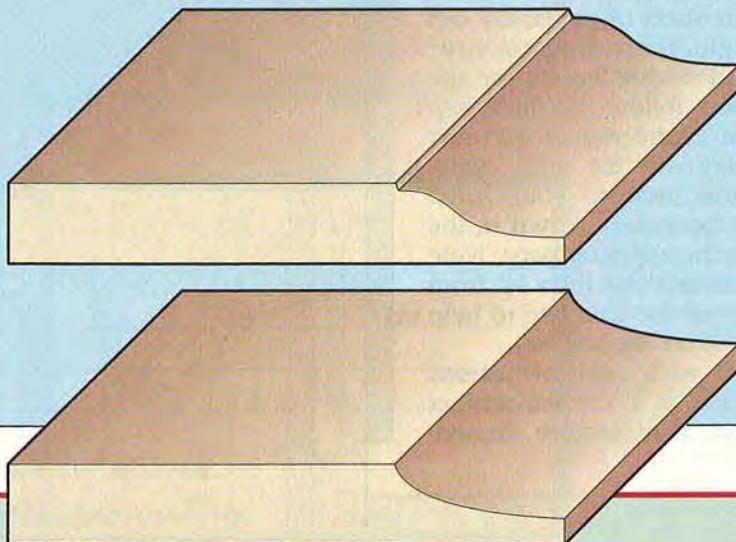
If you have a router that accepts  $\frac{1}{2}$ "-shank bits, you may be interested in raising your panels with router bits such as the versions *right*. We prefer the wide models ( $3\frac{1}{2}$ " in diameter) because they cut  $1\frac{1}{2}$ "-wide bevels—nearly as wide as the bevels you cut with a tablesaw. Although these bits cost \$50 or more, they offer you several advantages. First, you can cut bevels with curved profiles as shown *below*. Second, these bevels require no sanding.

Typically, these bits are designed for use with  $\frac{5}{8}$ " or  $\frac{3}{4}$ " stock. With either bit, the panel

will be higher than the surrounding frame unless you rabbet or back-cut the back of the panel as described on *page 35*.



With raised-panel bits such as these you can cut curved bevels that require no sanding.



*Continued*

# RAISED PANELS AND FRAMES

## HOW TO BUILD ARCHED-TOP PANELS AND FRAMES

As you can see in the drawing and photo *right*, arched-top panels and frames look terrific and assemble in much the same way as rectangular panels and frames. In this section we'll concentrate on the special requirements of this raised-panel type, starting with design.

### Grab your compass and lay out the arch

You can lay out the arch for your panel in just a few minutes with a pencil, compass, straightedge, and a sheet of paper larger than the finished panel and its frame. First, determine the width of the panel and its height measured from the top of the planned arch to the bottom of the panel. For example, if the finished frame in the drawing *above right* has outside dimensions of 12×18", then the panel should measure 8<sup>2</sup>/<sub>32</sub>×14<sup>5</sup>/<sub>32</sub>". We determined this by subtracting the width of the rails and stiles and adding 3/4" because about 3/8" of each edge of the panel is contained in the rails and stiles. Then, we subtracted 3/32" from the width and height to allow for contraction and expansion of the panel caused by changes in humidity.

On your sheet of paper, lay out a rectangle according to your height and width figures for the panel. Then, follow the three-step procedure at the *top of the next page* to lay out the arch. Now, transfer this arch to your panel and your top rail as shown in the photo on the *opposite page*. Note that we marked two lines 3/8" from both sides of the template to help us center it on the top rail.

Projects with multiple raised panels, such as a kitchen-cabinet installation, may require arched-

top panels of varying widths. For aesthetic reasons, the height of the arches should be the same from panel to panel. The boxed information *right* shows how to handle this situation.



An elegant arched top adds even more appeal to the basic raised panel and its surrounding frame.

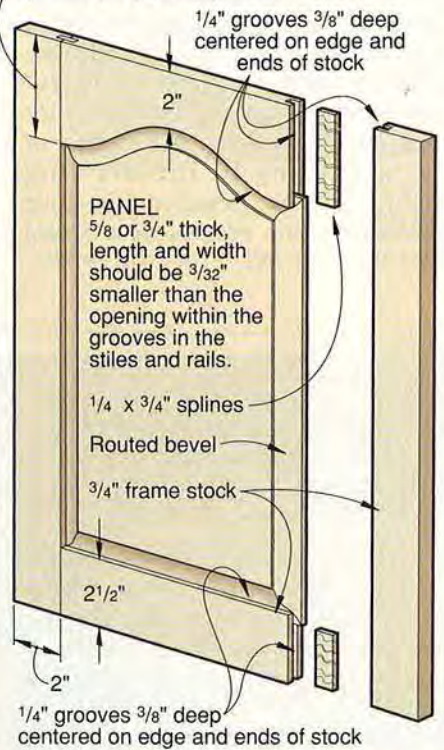
### Cut your parts and put it all together

With a bandsaw, cut the arched portion of the panel and top rail, staying just outside the layout line. Sand to the line and smooth your bandsawn edges with a drum sander.

To cut the slots in the frame pieces, use a 1/4" slotting cutter with ball bearing that cuts a 3/8"-deep slot.

(See the Buying Guide on the *opposite page* for our source.) If you prefer the look of a cope-and-stick frame, you can substitute a rail-and-stile router

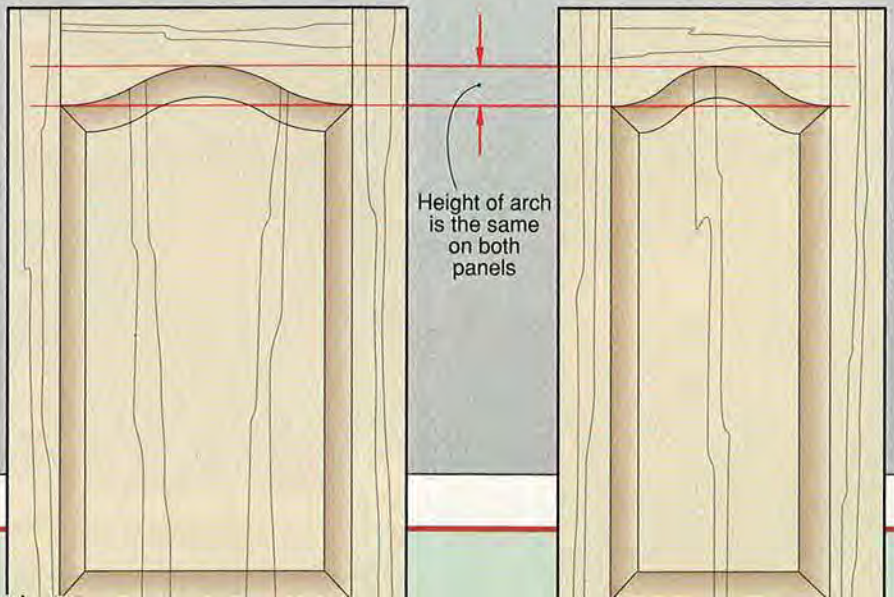
Overall width of upper rail is determined by arched top-panel pattern.



## DEALING WITH VARIOUS WIDTHS OF

Although the width of the panels may vary within the same project, the height of the arch should remain the same. The width of the stiles and rails of the frame also are the same on both doors.

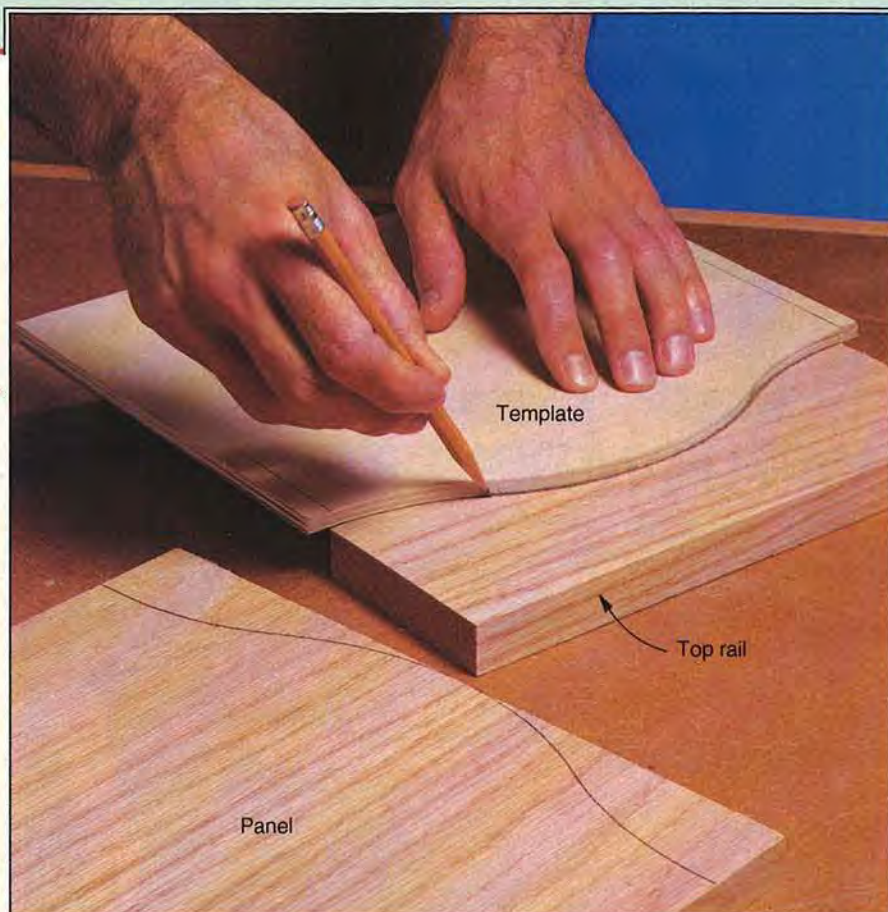
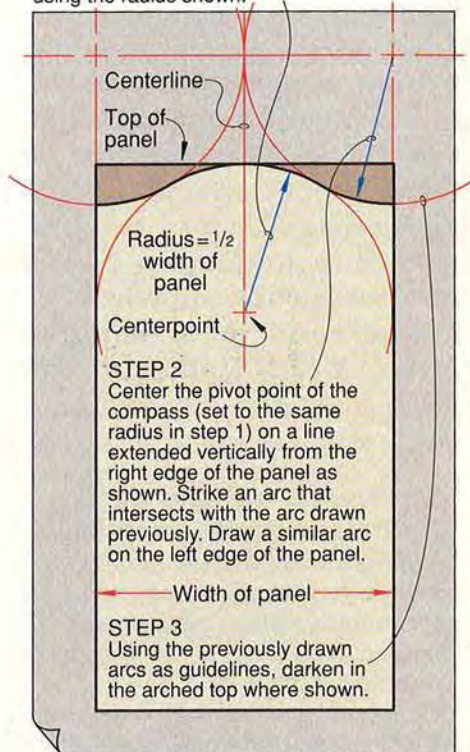
Shown here is the procedure for laying out the arch on narrower or wider panels. In this example we are laying out an arch on a narrower panel from the existing panel on the left.



## LAYING OUT A TEMPLATE FOR ARCHED-TOPPED PANELS

### STEP 1

Locate the centerpoint on the vertical centerline where shown. Draw a circle using the radius shown.



Use a paper or plywood template to transfer the arch to the panel and top rail. Be careful to center the arch on the panel.

## ARCHED-TOP PANELS

### STEP 1

Using a framing square, transfer these three height lines to the panel on the right: Top of panel, arc intersection, and baseline of arch (where arch meets panel side).

### STEP 2

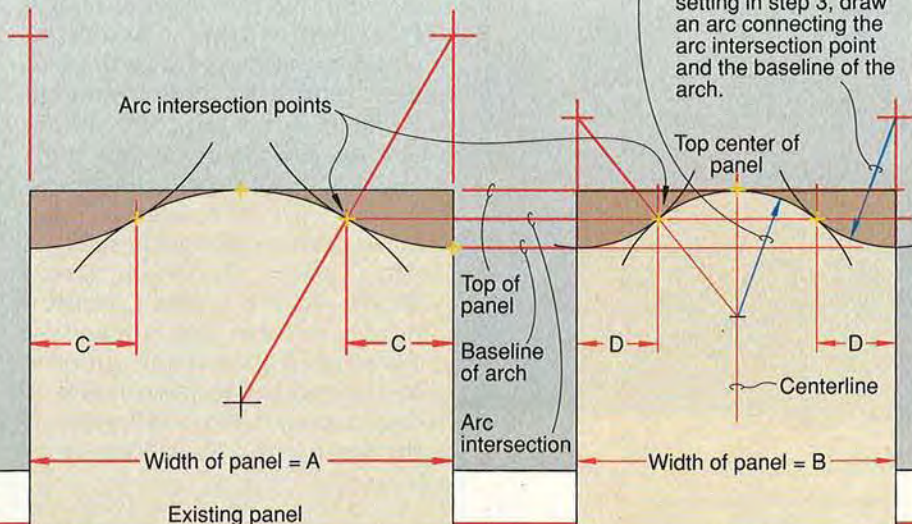
Locate arc intersection points on the right-hand panel using formula:  $D = (B + A) \times C$ .

### STEP 3

Using the trial and error method, draw an arc connecting the arc intersection points and the top center of panel.

### STEP 4

Using the same radius setting in step 3, draw an arc connecting the arc intersection point and the baseline of the arch.



bit set in place of the slotting cutter. For more on this method, see the earlier section "Cope-and-stick joinery" on page 39.

With a raised-panel bit in your router table, cut a bevel around the perimeter of the face side of the panel. Assemble and finish the panel and frame pieces as described on page 38.

### Buying Guide

- **Slotting cutter** that cuts 1/4"-wide slot 3/8" deep. Item no. 368 (1/4" shank) or no. 668 (1/2" shank), \$14 ppd. (in U.S.) from MLCS, P.O. Box 4053 C-12, Rydal, PA 19046. Call 800/533-9298.

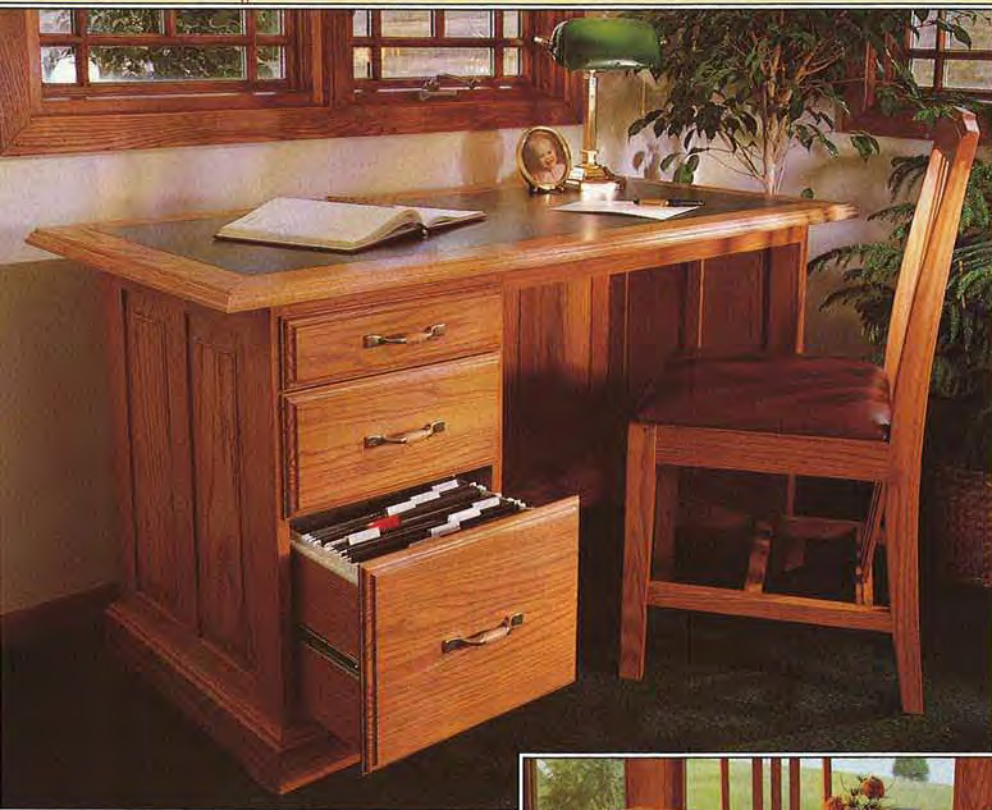
- **Small panel-raising bit** that's ideal for backcutting panels. Item no. 387, 2" diameter, 1/4" shank, \$25 ppd. (in U.S.) from MLCS at above address. 🌲

Written by Bill Krier with Jim Downing  
Illustrations: Jim Downing; Kim Downing  
Photographs: Hopkins Associates

# DOWN-TO-BUSINESS

# OAK DESK

## WITH HANDSOME RAISED PANELS



We've wrapped the oak-and-frame panels around the desk, allowing you to position it against a wall as shown *above* or to sit in the middle of a room as shown at *right*.



It would cost you about \$1,500 to buy a raised-panel, solid-oak desk like the one shown here. But if you're willing to invest some time and effort, you can build this enduring, traditional furniture piece for about \$350. And look what you get for your money—frame-and-panel construction, a smooth, attractive top, and a trio of drawers, one of which is large enough for hanging files. Best of all, you can proudly say you made it yourself.

### Start with end and middle frame and panel assemblies

*Note:* To machine the panels (H), see the preceding technique article on how to make raised panels. To make the jig used to form the panels, see page 34.

**1** To construct the two end frames and middle frame, cut the stiles (A, B), top rails (C), and bottom rails (D) to the sizes listed in the Bill of Materials. (We used red oak.) Note that you'll use two of the five stiles (B) for the large front frame.

**2** Cut the front frame top rail (E), bottom rail (F), and mullions (G) to size.

**3** Edge-join narrower stock to make up the raised-panel blanks (H). Following the tablesaw and router method and illustration from the techniques article on page 38, machine the panels.

**4** Cut  $\frac{1}{4}$ " grooves  $\frac{3}{8}$ " deep along the appropriate edges of A, B, C, D, E, F, and G. Also make grooves along the ends of parts C, D, E, F, and G where shown on the Frame Construction, End View, and Front View drawings. (To cut the grooves in the right place, we laid out the frames in the configuration shown on the End View and

 Print this article

Front View drawings. Next, we marked the edges and ends needing the grooves, and did the cutting to these marked edges.)

**5** Using  $\frac{1}{4}$ " stock (we selected plywood), cut the splines to the sizes dimensioned on the Frame Construction, End View, and Front View drawings.

**6** Finish-sand and stain the raised panels. Staining the panels now prevents the exposure of an unstained line later if the panels happen to shrink slightly.

**7** Glue and clamp the front frame together as shown in the photo below right. Check that the front frame clamps square and flat.

**8** Before gluing and clamping the end and middle frames together, study the Assembling the Frames drawing. Notice that the panels in the left-hand and middle frames face on direction; the right-hand frame, the opposite direction. Once the pieces are in the correct configuration, glue and clamp the end frames and middle frame, letting them sit that way overnight.

**9** Mark and cut the notch for the top rail (K) in the middle frame where shown on the Assembling the Frames drawing. Finish-sand both sides of each frame, being careful not to sand the previously stained panels.

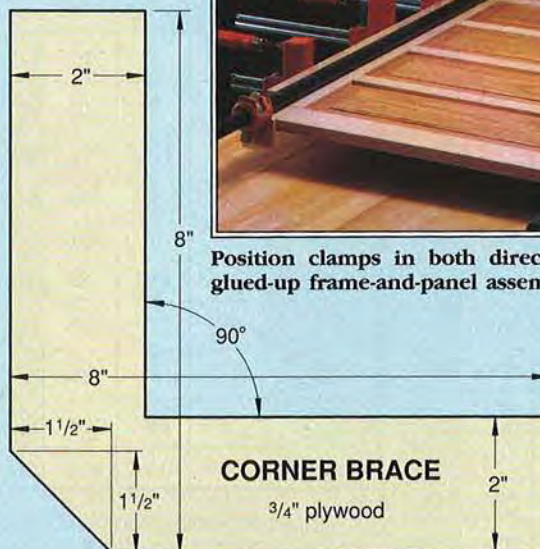
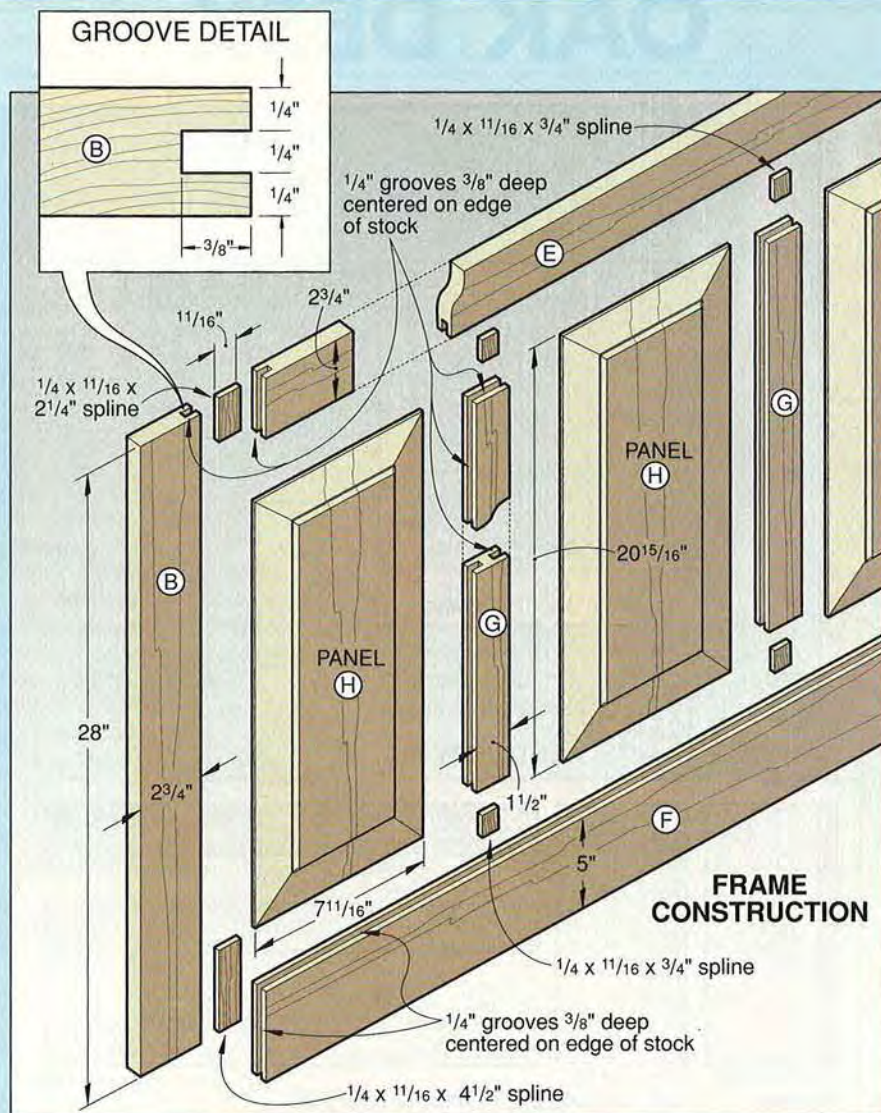
### Assemble the drawer unit

**1** Cut a couple of corner braces like that shown at right.

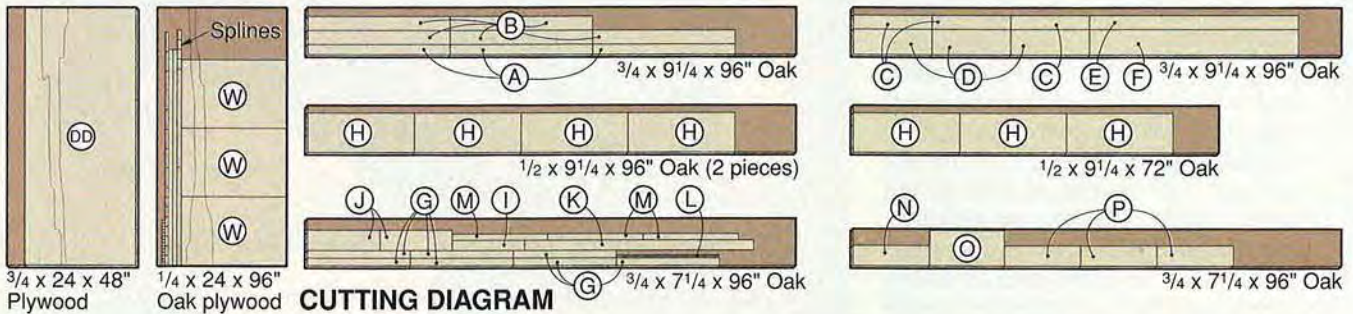
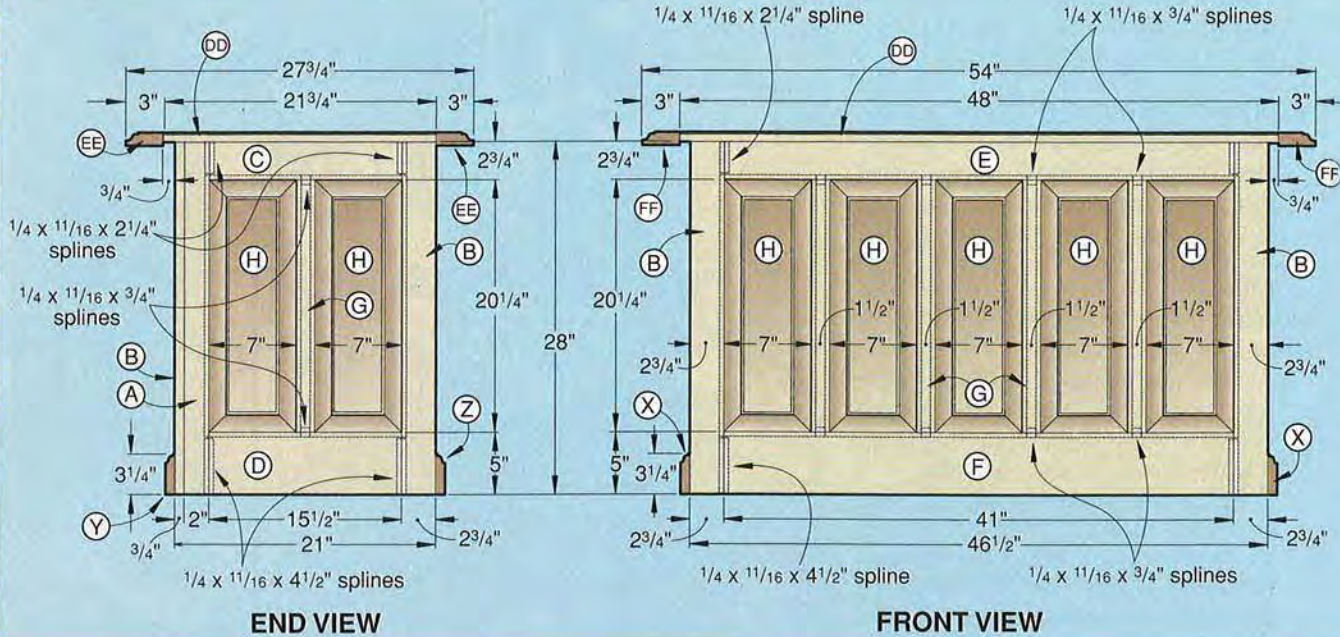
**2** Cut the rails (I, J, K) to size. The long rail (K) should measure  $1\frac{1}{2}$ " less than the overall length of the front frame. For proper fitting drawers and slides later, be careful to cut the short rails to the exact length listed in the Bill of Materials.

**3** Glue and clamp the rails (I, J, K) in place where shown on the drawing titled Assembling the Frames and the Exploded View drawing. Use the corner braces cut in step 1 to help hold the assembly square. Drill countersunk mounting holes, and screw the rails in place (see the Screw-Hole

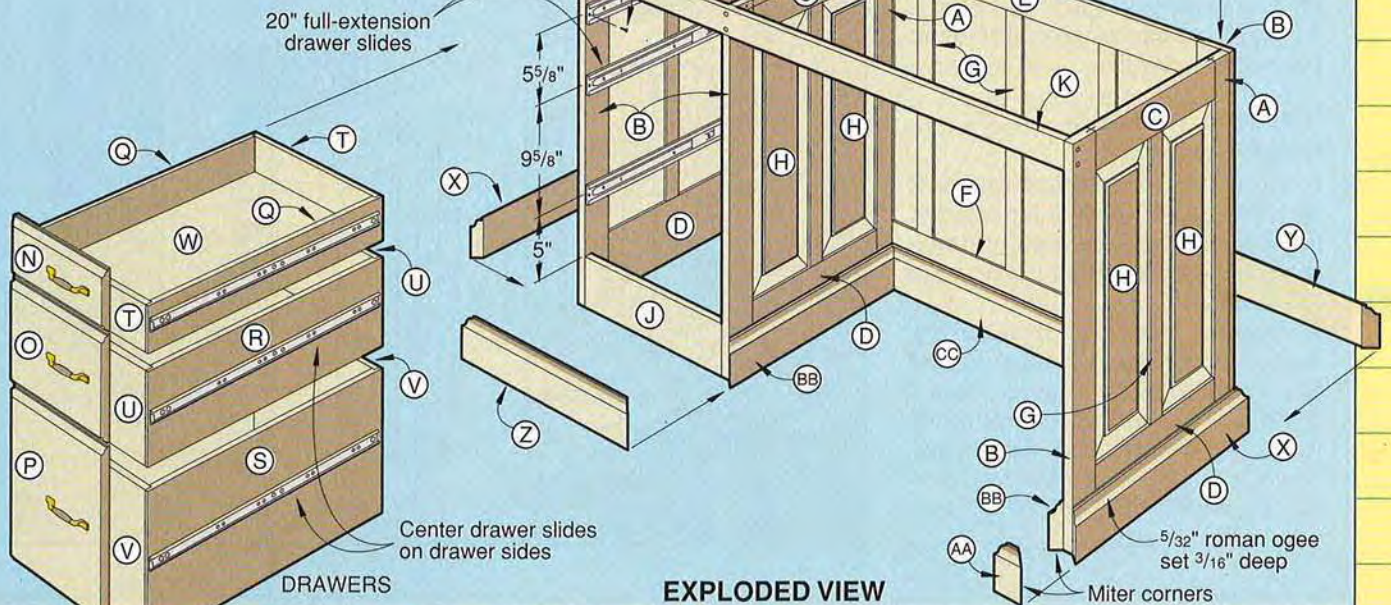
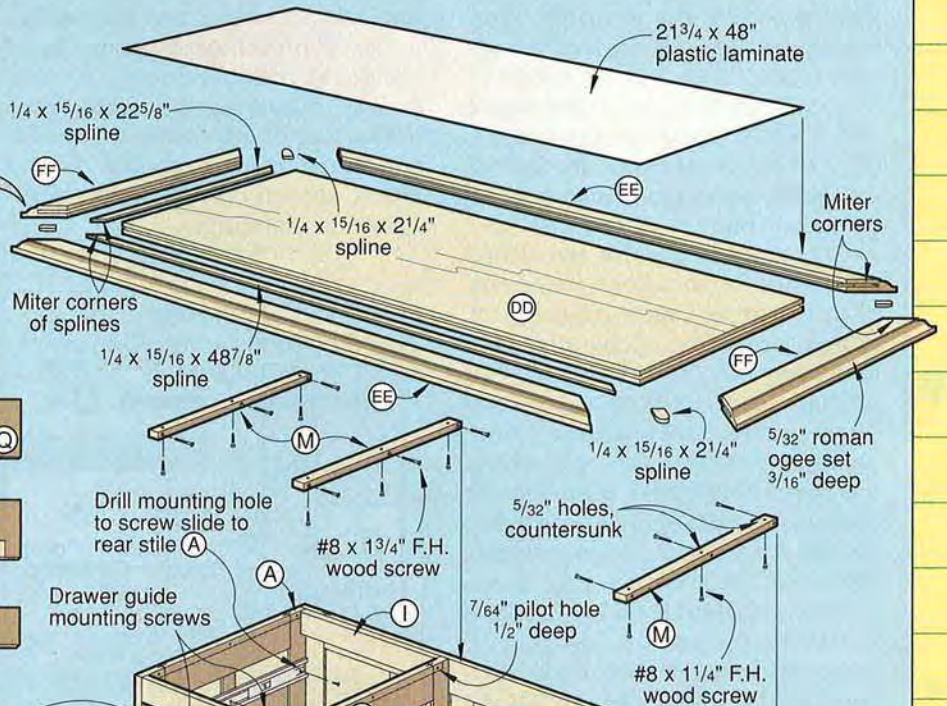
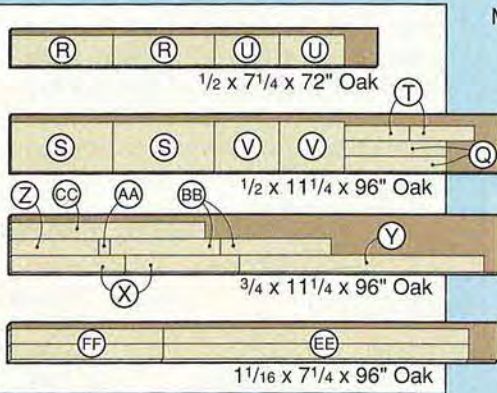
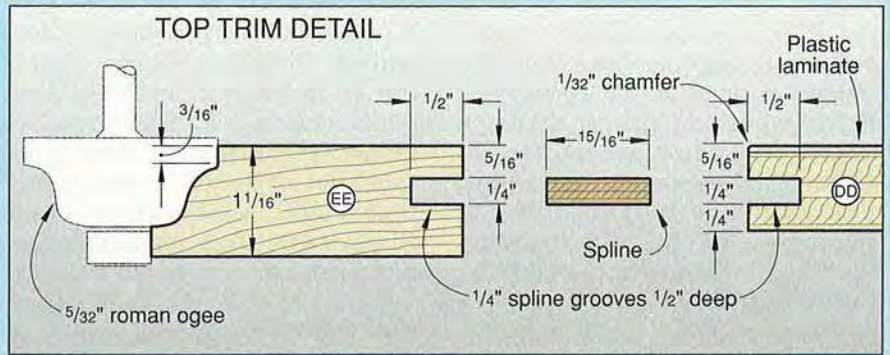
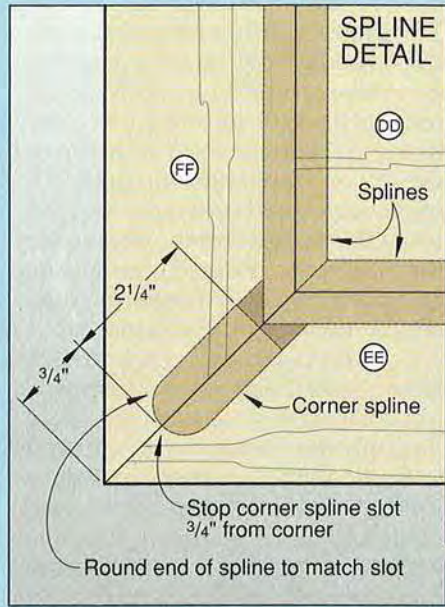
*Continued*



# DOWN-TO-BUSINESS OAK DESK



Bill of Materials																	
Parts	Finished Size			Mati.	Qty.	Parts	Finished Size			Mati.	Qty.	Parts	Finished Size			Mati.	Qty.
	T	W	L				T	W	L				T	W	L		
FRAME-AND-PANEL ASSEMBLIES						DRAWERS						BASE TRIM					
A stiles	3/4"	2"	28"	RO	3	N top front	3/4"	4"	15"	RO	1	X* sides	3/4"	3 1/4"	22 1/2"	RO	2
B stiles	3/4"	2 3/4"	28"	RO	5	O middle front	3/4"	7"	15"	RO	1	Y* front	3/4"	3 1/4"	48"	RO	1
C top rails	3/4"	2 3/4"	15 1/2"	RO	3	P bottom front	3/4"	11 1/2"	15"	RO	1	Z* back	3/4"	3 1/4"	17 1/4"	RO	1
D bottom rails	3/4"	5"	15 1/2"	RO	3	Q sides	1/2"	3"	20"	RO	2	AA* end	3/4"	3 1/4"	2 1/4"	RO	1
E front top rail	3/4"	2 3/4"	41"	RO	1	R sides	1/2"	6"	20"	RO	2	BB* insides	3/4"	3 1/4"	21"	RO	2
F bottom top rail	3/4"	5"	41"	RO	1	S sides	1/2"	9 3/4"	20"	RO	2	CC* inside	3/4"	3 1/4"	30"	RO	1
G mullions	3/4"	1 1/2"	20 1/4"	RO	7	T front & back	1/2"	3"	12 3/4"	RO	2	TOP TRIM					
H panels	1/2"	7 11/16"	20 15/16"	RO	11	U front & back	1/2"	6"	12 3/4"	RO	2	DD top	3/4"	21 3/4"	48"	P	1
I top rail	3/4"	2"	14 1/4"	RO	1	V front & back	1/2"	9 3/4"	12 3/4"	RO	2	EE trim	1 1/16"	3"	54"	RO	2
J bottom front rails	3/4"	4"	14 1/4"	RO	2	W bottoms	1/4"	19 1/2"	12 3/4"	OP	3	FF trim	1 1/16"	3"	27 3/4"	RO	2
K top rail	3/4"	2"	45"	RO	1	*Initially cut these parts oversized. Then, trim each to finished size according to the how-to instructions.						<b>Materials Key:</b> RO-red oak, OP-oak plywood, P-fir plywood					
L filler strip	1/4"	3/4"	20 1/4"	RO	1							<b>Supplies:</b> 1/4" x #17 brads, #8 x 1 1/4" flat-head wood screws, #8 x 1 3/4" flat-head wood screws, 22 3/4 x 49" plastic laminate, contact cement, stain, clear finish.					
M cleats	3/4"	1 1/4"	18 3/4"	RO	3												



# DOWN-TO-BUSINESS OAK DESK

detail). Cut plugs, plug the holes, and sand the plugs flush with the outside surface of the stiles.

**4** For a flush fit against the back side of the front frame, cut the filler strip (L) to size. Glue the strip to the back edge of the stile (A) belonging to the middle frame where shown on the Assembling the Frames drawing.

## Complete the desk carcass

**1** Being careful not to mar the surfaces, glue and clamp the drawer unit to the back face of the front frame. Keep the top and bottom edges flush, and keep the outside edge of the front frame flush with the outside surface of the drawer-unit end frame.

**2** Glue and clamp the remaining end frame to the front frame, using the corner braces to keep the frames square to each other. Immediately secure the top rail (K) in place to help keep the assemblies square. Drill counterbored holes, and fasten the top rail to the remaining end frame. See the Screw-Hole detail accompanying the drawing titled Assembling the Frames for reference.

**3** Now, cut the cleats (M) to size. Drill the mounting holes, and glue and screw them to the end and middle frames where shown on the Exploded View drawing.

**4** Scrape off excess glue, and sand the joints smooth.

## It's time to add a trio of drawers

**1** Using the Drawer Construction and Exploded View drawings and the Bill of Materials, cut the drawer fronts (N, O, P) to size from  $\frac{3}{4}$ "-thick oak.

**2** Fit your router with a  $\frac{5}{32}$ " roman ogee bit, and rout along all four edges of each drawer front.

**3** From  $\frac{1}{2}$ " oak, cut the drawer sides (Q, R, S), and fronts and backs (T, U, V). Next, from  $\frac{1}{4}$ " oak plywood, cut the drawer bottoms (W) to size.

**4** Cut or rout  $\frac{1}{4}$ " grooves  $\frac{1}{4}$ " deep and  $\frac{1}{4}$ " from the bottom edge of the  $\frac{1}{2}$ " fronts and backs (T, U, V) and sides (Q, R, S). Next, machine  $\frac{1}{2}$ " rabbets  $\frac{1}{4}$ " deep along the front and back ends of each drawer side. See the Drawer Construction drawing for reference.

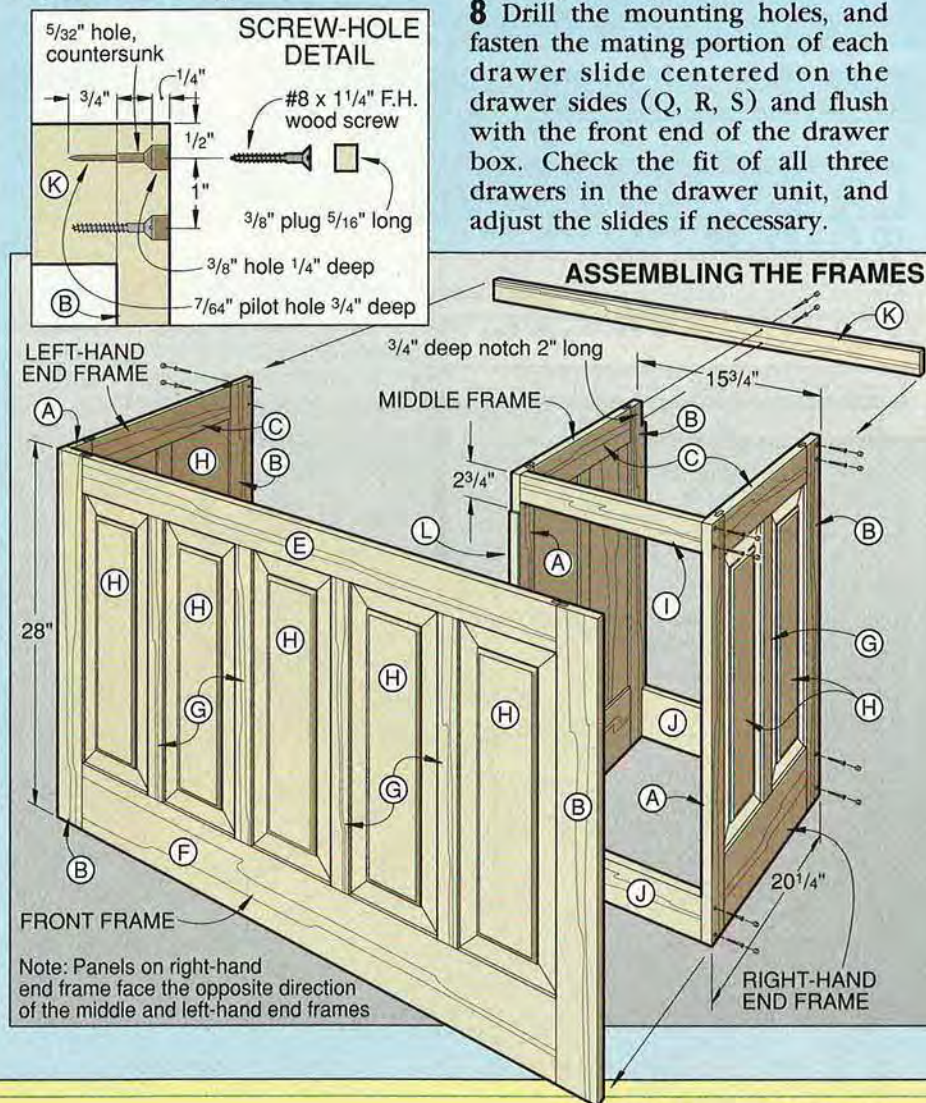
**5** Glue and clamp each drawer (minus the fronts—N, O, P). Check each corner for square, and adjust clamps accordingly. You'll position and add the drawer fronts later after the drawers have been installed on the slides.

**6** For mounting the pulls later, drill a pair of mounting holes centered on the front of each drawer where shown on the Drawer Construction drawing.

**7** Using the dimensions on the Exploded View drawing, mark the drawer-slide locations (centerlines) on the inside face of the drawer unit. See the Buying Guide on the *opposite* page for our source of hardware, and review the directions supplied with the slides for detailed mounting instructions. Drill the pilot holes, and screw the slides in place.

To mount the back end of each slide to the back stiles (A), you'll have to drill a mounting hole through the metal slides and into the stiles. The existing rear-most hole in the slide comes too close to the front edge of the rear stile (A). Screws driven this close to the edge can split the stile.

**8** Drill the mounting holes, and fasten the mating portion of each drawer slide centered on the drawer sides (Q, R, S) and flush with the front end of the drawer box. Check the fit of all three drawers in the drawer unit, and adjust the slides if necessary.





## Next, add the base trim

**1** Using  $\frac{3}{4}$ " oak, rip two 96"-long pieces and one 48"-long piece to  $\frac{3}{2}$ " wide for the base trim. See the Cutting Diagram for reference.

**2** Using a  $\frac{5}{32}$ " roman ogee bit mounted in your router, rout an ogee along one edge of all three trim pieces. See the Top Trim detail accompanying the Exploded View drawing for reference. Sand the routed ogee smooth.

**3** Miter-cut the base trim pieces (X, Y, Z, AA, BB, CC) to length. Glue and clamp the pieces to the desk base where shown on the Exploded View drawing.

**4** With the drawers in place on the slides, and leaving a  $\frac{5}{8}$ " gap between the top edge of trim piece Z and the bottom edge of the bottom drawer front P, drill pilot holes in the back face of P, and fasten the bottom drawer front to the bottom drawer assembly. Leaving an equal gap ( $\frac{1}{8}$ " ), fasten the two remaining drawer fronts to their respective drawers.

## And now for the desktop

**1** From  $\frac{3}{4}$ " fir plywood, cut the desktop substrate (DD) to size.

**2** Cut a piece of plastic laminate (we used Formica #302, Russet Oxide) to the size of the substrate plus 1" in length and width. Using contact cement, center and adhere the plastic laminate to the top of the substrate.

**3** Fit your router with a flush-trimming bit, and rout the edges of the laminate flush with the edges of the substrate.

**4** Rout a  $\frac{1}{32}$ " chamfer along the top four edges of the laminate where shown on the Top Trim detail accompanying the Exploded View drawing.

**5** Rip and miter-cut the desktop trim pieces (EE, FF) to size.

**6** Fit your router with a  $\frac{1}{4}$ " slotting cutter. Rout  $\frac{1}{4}$ " grooves along the edges of the plywood substrate and along the inside edges

of the trim. See the Top Trim detail for reference. Then, rout  $\frac{2}{4}$ "-long stopped-spline grooves along the mitered ends of the trim where shown on the Spline detail accompanying the Exploded View drawing.

**7** From  $\frac{1}{4}$ " stock, cut  $\frac{15}{16}$ "-wide splines to the lengths listed on the Exploded View drawing. Round the ends of the splines that fit between the mitered ends of the trim. Glue and spline the trim pieces to the plywood substrate.

## Sand and finish your good-looking desk

**1** Mask the laminate top. Finish-sand the trim. Finish-sand the base unit.

**2** Remove the drawer slides from the drawer sides.

**3** Stain as desired (we used Wood Kote Danish Walnut). If you use the same pulls we did, don't forget to stain the wood on the drawer pulls. Add the finish (we applied several coats of Minwax fast-dry satin polyurethane).

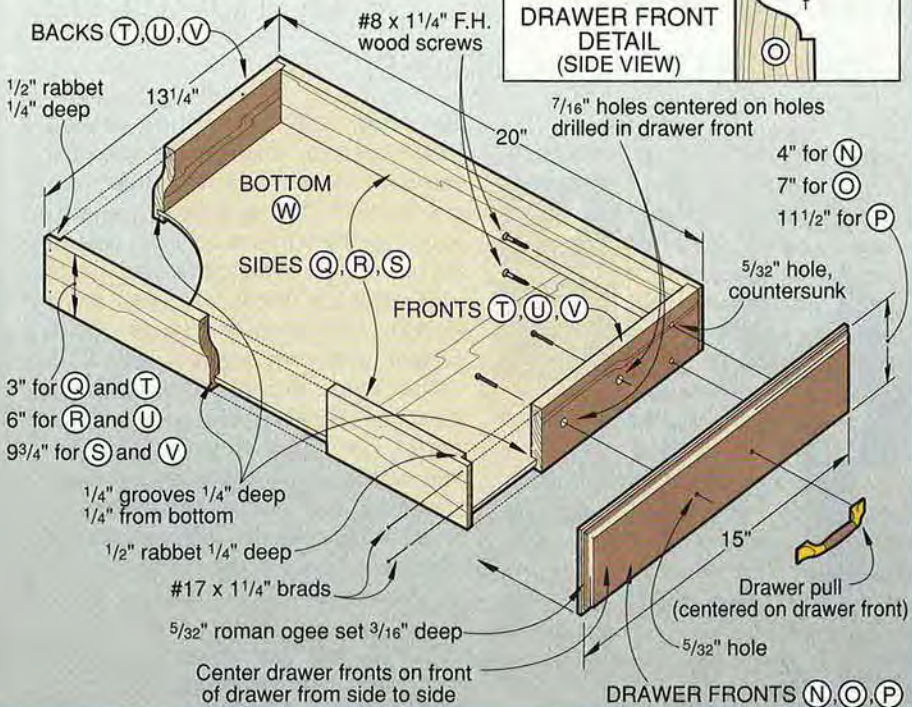
**4** Reattach the slides and add the pulls. If you want file holders (see the Buying Guide), cut the hanging holders to length and install them along the top edges of the bottom drawer. Position the desktop on the base unit where located on the End View and Front View drawings. Drive screws through the previously drilled holes in the cleats to secure the two together.

## Buying Guide

• **Desk hardware.** Three pair of 20" full-extension box drawer slides, 3-medium antique English pulls, two 24" pieces of white styrene folder holder. Stock no. 88056, \$64.95 ppd. The Woodworkers' Store, 21801 Industrial Blvd., Rogers, MN 55374-9514. Or call 612-428-3200 to order. 🍄

Produced by Marlen Kemmet  
Project Design: James R. Downing  
Photographs: Perry Struse  
Illustrations: Kim Downing

## DRAWER CONSTRUCTION

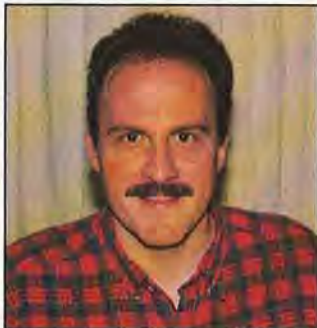




# CAN YOU CUT IT? WOODWORKING

**You've read about former hobbyist woodworkers—and probably know a few—who now make money with their skills turning out furniture, toys, bowls, and other projects. Is that the life for you? Can you take the big step? For answers to such questions, we turned to an expert.**

Jack Neff, a freelance journalist from Batavia, Ohio, did hundreds of hours of interviews for his book *Make Your Woodworking Pay For Itself*. (Published in 1992 by Writer's Digest Books, Cincinnati, Ohio, it sells for \$16.95 at bookstores.) Chapter after chapter, Jack takes the reader from startup to marketing, to taxes and money management. Jack starts his book with perhaps your biggest decision—whether to remain a woodworking hobbyist or try to make money.



Journalist Jack Neff

## Are you cut out for business?

During his research, Jack talked to dozens of woodworkers who make money with their skills. For most of them, the transition to profit was gradual.

"It seems as if the majority of people start out with it as a hobby," says Jack. "Then they try to make a little money from it—just as a hobby—before they go into it as a full-blown business." But if you're still in the hobby stage, he believes you must ask yourself some serious questions before taking the plunge.

"Do you want woodworking to supplement a retirement income," he asks, "or become a full-time job? What you decide dictates the direction you need to go." And lurking within those questions lie

some very important considerations that might affect your choice, particularly if you are near retirement age.

"For instance, under social security rules," he adds, "there is a dollar ceiling to the income you can make over and above your social security payments [for 1993, \$7,600 annually if you're under 65; \$10,560 a year if you're 65 or over]. Those ceilings—and they change each year—could dictate the approach you take. Too, some early retirement plans may have similar restrictions on income."

And there's always the question of time. Just how much of it do you want to spend?

"There really are some hassles to owning a business," says Jack.

## A taxing question: To be or not to be a woodworking business?



If you turn your woodworking hobby into a business for tax purposes, you can claim some deductibles from your annual income. For instance, you could write off professional seminars and deduct overhead such as a portion of your mortgage, heat, power, and property tax bills (because rules are changing, check current IRS regulations). You could even buy new woodworking tools, and then depreciate them over the next five years or write off the entire amount in the year you bought them.

"As a hobbyist, the only way to justify a tool purchase and write it off is to purchase it for a specific job [that you're doing for profit]," Jack explains. "But then you

# AS A BUSINESS

"For one thing, the amount of time it takes to do the paperwork. Then, there's the actual selling. If you want to just sell an occasional item to friends, it's not going to take much time compared to what you have to spend on marketing if you're really going to push for a profit. For example, one of the areas that a lot of people start out in—even if they don't end up doing that forever—is going to crafts fairs.

"That can be incredibly time-consuming," he continues. "First, the fairs usually take an entire weekend. Then there's travel time and expense. And for many, having constant interaction with people over a few days is not what they got into woodworking for."



can only write off the time you actually used it for that job—and there is no other way you can use that tool for another job. If you do, the tool would be judged [by the Internal Revenue Service] as something you bought for personal enjoyment—for your hobby—and not exclusively for your woodworking business."

How do you become a business? According to Jack, there are several criteria that the IRS uses, but the main one deals with your track record. "If you have been charging for your woodworking for five consecutive years, and you can demonstrate that you made a profit in three of those years," he says, "the IRS assumes that you are operating a business."

You do, though, have an alternative approach. Jack explains: "You don't necessarily have to become a business even if that criterion fits, as long as you're claiming any profit you make under miscellaneous income on your form 1040. That means it's still possible to be a hobbyist and run a money-making operation. You just can't take all the legal tax deductions from your gross income that a business could.

"You get into trouble," Jack comments, "when you consistently report losses from what you call a woodworking business and take those losses as deductions against other income. That's when the IRS is most likely to blow the whistle and say 'You're not a full-fledged

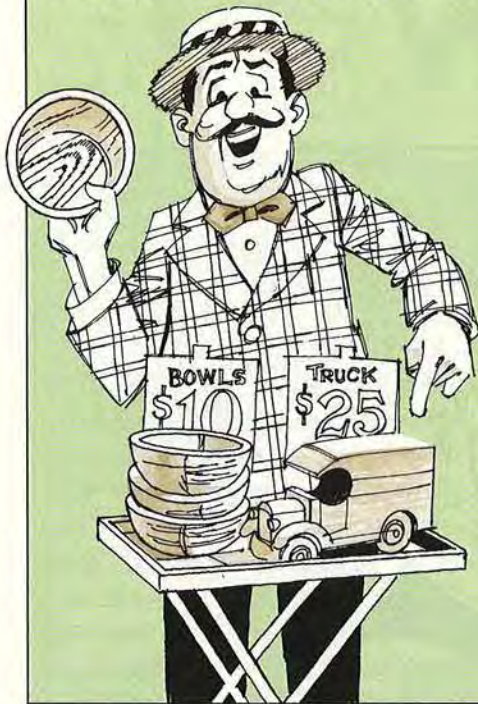
business; this only qualifies as hobby income.'"

Zoning, although it has little bearing on taxes, also can be a deciding factor in what you do, according to the book author. "If you're not woodworking for money, you can run all the power tools you want," notes Jack, "unless of course you run across a local noise ordinance. But if you're woodworking for money and it bugs your neighbors, you could have a problem. Municipal and county zoning ordinances vary so much that it's hard to generalize, but the rule of thumb is—'No harm, no foul.' That is, as long as your neighbors don't complain, no zoning inspector will pop in to see if you are running a business."

*Continued*

## WOODWORKING AS A BUSINESS

### How to market what you make



As a hobby woodworker, what you make in your shop and how you make it is up to you. But to turn a profit, you'll need a good infusion of marketplace wisdom.

"You don't really find somebody just going out and looking around to see what sells or what might be the most profitable item, and then start making it," Jack observes. "A business most always starts with something that somebody likes to do or has done with success. Then, after testing the waters with their product, they refine it. And perhaps the best way to do that is at a crafts fair because there you have thousands of people coming by. You can see what appeals to folks, learn the competition, and determine what your product should sell for. It's a good way to cut your teeth."

In his book, Jack provides a calculation for determining a product's price based on overhead, time, labor, materials, and your pay. He admits, though, that it's just a formula to begin with. "Price always comes down to what the market will bear and what other people charge," he says. "That's where crafts fairs come in: You can come up with calculations for making a profit, but if other people are selling basically the same thing for less, then you won't sell any. And in the craft market, you'll find hobbyists who aren't necessarily looking at it from a profit-and-loss standpoint. They just want to recoup some of the money that they spend on their hobby."

In his explorations into the business side of woodworking,

"It's tough out there, but I could never work for anyone else again."

—Hank Gorczynski, toymaker

*For more than 20 years, Hank Gorczynski has made a living from toys he makes in his Batavia, New York workshop. He sells at crafts fairs throughout the year. (We featured Hank and his work in the August 1992 issue of WOOD® magazine.) Here, he of-*

**Hank started out making simple pine vehicles. Now he builds collector's items. Woodworking lured him away from a fulltime job as a shipping supervisor.**

*fers some pull-no-punches observations on making a living from selling his creations.*

"The most difficult part is getting into top-notch, juried fairs. If you can't get into them, you can't make a living at this today. And the exhibit fee for a top-notch one will run at least \$400. With that, you're talking at least \$1,000 cost per weekend. We're coming out of a recession, but at a recent crafts fair I went to—it used to be one of my best—I only took in \$1,508 for four days!

"It's tough out there, but all the same, after 21 years of this I could never work for anyone else again. I love what I do. I like my freedom, but I can't recommend the crafts-fair circuit as a way to make a living. If you want to try it, do some local shows first, then feel your way along. And never buy any new tools until you really need them. Get by with what you have. In the meantime, don't even think about it fulltime unless you've got a pension check or other supplemental income coming in every month."



Jack also has found an interesting contradiction about marketing. "Lower-priced items of \$25 and less sell best at crafts fairs. But if you're not a mass producer, you can't make a profit on them. So if you like to painstakingly hand-craft items," he advises, "choosing bigger-ticket ones—and maybe even finding other outlets, such as galleries—may ultimately work best for you."

Jack has other suggestions when it comes to marketing your work. Regarding shops, for instance. "If you're just starting out with no track record and plan to work with the retail trade, make them an offer they can't refuse, such as consignment [you only get paid when it's sold, and give the shop a commission]," he says. "Then, as you develop a reputa-

tion with shops for making products that people buy, it becomes easier to get some payment from them up front or net 30 days [price less discount in a month].

"Another good way to sell is by commission," Jack adds, "but you must be an established craftsman. You also can try having craft parties in your home." For more selling advice, see the box *right*.

But of all the advice Jack can pass along from those who have successfully made the transformation from hobbyist to professional, he likes one piece the most. "The main thing is to start out and stay with what you like to do and what you know best," he says. "That's what virtually everybody who's successful selling their craft does because it keeps the enjoyment in it."

## TIPS

How to  
sell like the pros

- Make limited editions (25–50) of smaller items and number them. Also sign or brand what you make.
- Build an attractive booth or display. Pros say it can account for 25 percent of sales.
- At crafts fairs, take the time to talk to customers and explain what makes your product so very special.
- Tag your work with a business card, or include one in the wrapping when you make a sale.
- If possible, keep a sales' log of customers. From this develop a mailing list to market new products or stimulate later sales.

"You'll never know  
if you can do it  
until you try."

—Jim Watson, furniture restorer

*It was about 10 years ago that Jim Watson of Huntsville, Arkansas, took the step and set up shop as a full-time furniture restorer. Now, he has to turn away business. (We visited Jim in the December 1990 issue of WOOD® magazine.) Here he tells about how it was to make the move from hobbyist to professional.*

"I always wanted to quit my job, but I was scared to. Yet, there was quite a bit of demand for restoring furniture, so I said to myself 'You'll never know unless you try it.' But basically, when you get more work than you can do, that's telling you something.

Folks from far and near with furniture that needs restoring seek the help of Jim Watson. From the beginning, he built a reputation by doing good work.

"I got to figuring how much work I was doing and how much I was turning down [as a hobby], and got the picture that the opportunity was there if I did good work. The biggest adjustment for me was not getting a paycheck every two weeks. And a lot of people can't handle that. But the work was there and still is.

"At first, though, for about a year, I took some jobs that I really

didn't like. Now I'm to the point where I can pick 'em. There seems to be a demand [for restoration] no matter where you're at.

"But you got to remember that, when you run your own business, you have to be everything. You got to do the PR, the advertising, everything. It's still fun, but it was really fun when I did it for a hobby. This own-your-own-business stuff is serious." 🍄



# ONE-STOP CHOPPING



 [Print this article](#)

Whether slicing open a couple of hoagie rolls, cutting up a few mushrooms, or serving a loaf of nut-bread, any cook will love this little cutting board. As a bonus, it features a slot that holds a knife securely in place with magnets.

*Note: You'll need stock  $\frac{3}{8} \times 6 \times 24$ ",  $\frac{3}{8} \times 5 \times 18$ ", and a contrasting piece  $\frac{1}{4} \times 3\frac{1}{4} \times 12$ ". We resawed and planed ash for the  $\frac{3}{8}$ " stock, and cherry for the  $\frac{1}{4}$ " material. Our knife slot fits a Farberware 8" bread knife purchased at Kmart. Modify the cavity to fit your knife, if necessary.*

Joint one edge of each piece of stock. For part A, rip the 18"-long piece  $3\frac{1}{4}$ " wide from the jointed edge. Crosscut the cut-off piece to 12" long for part B.

Crosscut the  $\frac{1}{4}$ "-thick stock in half for parts C and the 24"-long piece for parts D. Ensure that the sawed end of each piece is square to the jointed edge. Mark the square end on each.

Now, start by assembling the handle. Lay part A on the workbench, with the jointed edge away from you. Lay one part C on top of it at the right end, jointed

edge away from you, square end to your left. Align the top edges flush, then glue and clamp.

Glue the remaining part C to the opposite face of part A, aligning the square ends of both parts C. (We used a try square to align the top and bottom corners.)

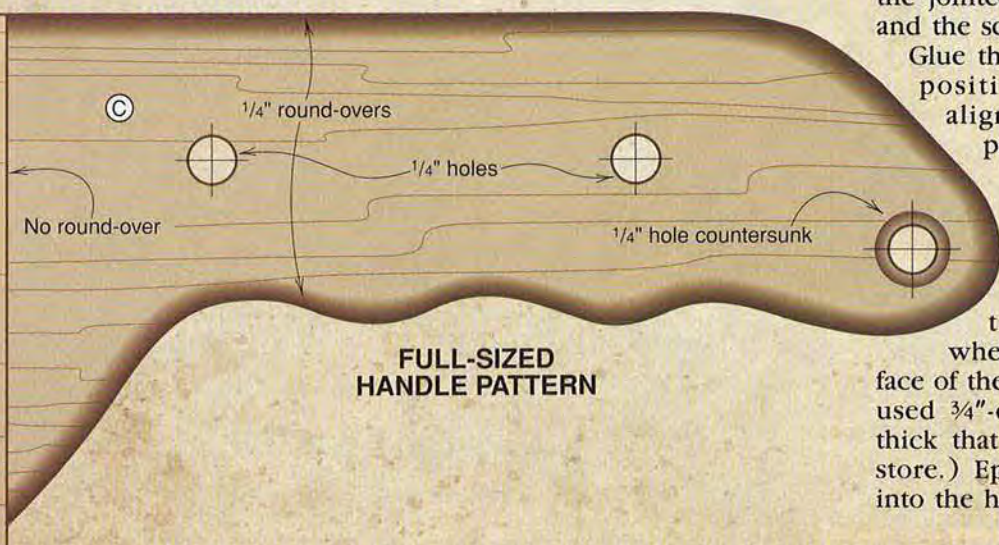
Trace the Full-Sized Handle Pattern onto part C. Align the pattern's top with the edge and its front with the square end. Bandsaw along the pattern line.

Back the handle with scrap-wood, and drill the three  $\frac{1}{4}$ " holes where shown with a drill press. Countersink the hanging hole for appearance. Glue  $\frac{1}{4}$ " dowels into the other two holes. Saw the dowel ends off flush. Round over the handle edges where shown with a  $\frac{1}{4}$ " round-over bit and a table-mounted router. Then, sand all surfaces smooth.

With the handle completed, build the cutting board. Lay one part D on the workbench with the jointed edge away from you and the square end to your right.

Glue the handle assembly into position where shown by aligning the top edges of parts A and D, and butting the end of part D against part C. Now, glue part B to part D where shown.

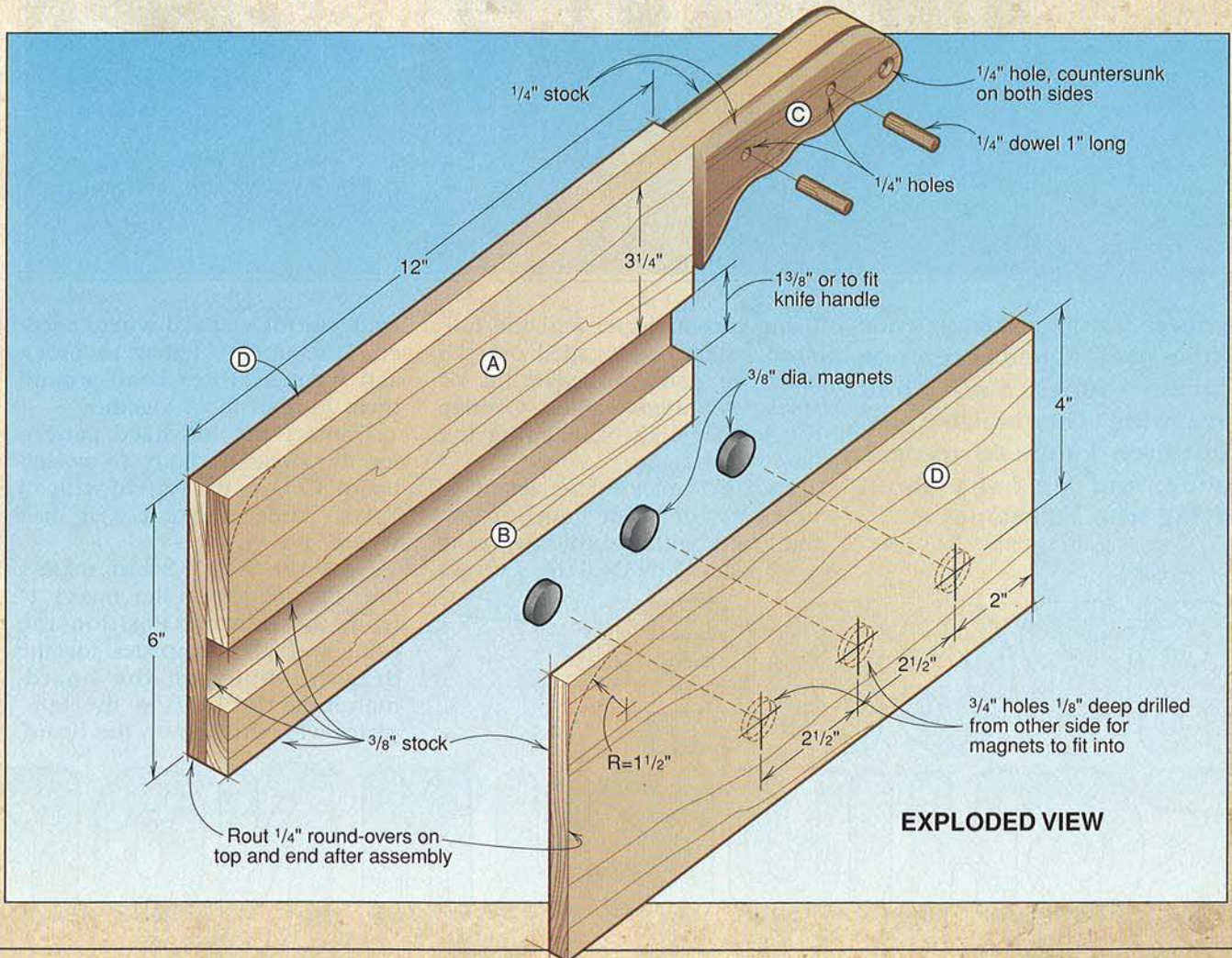
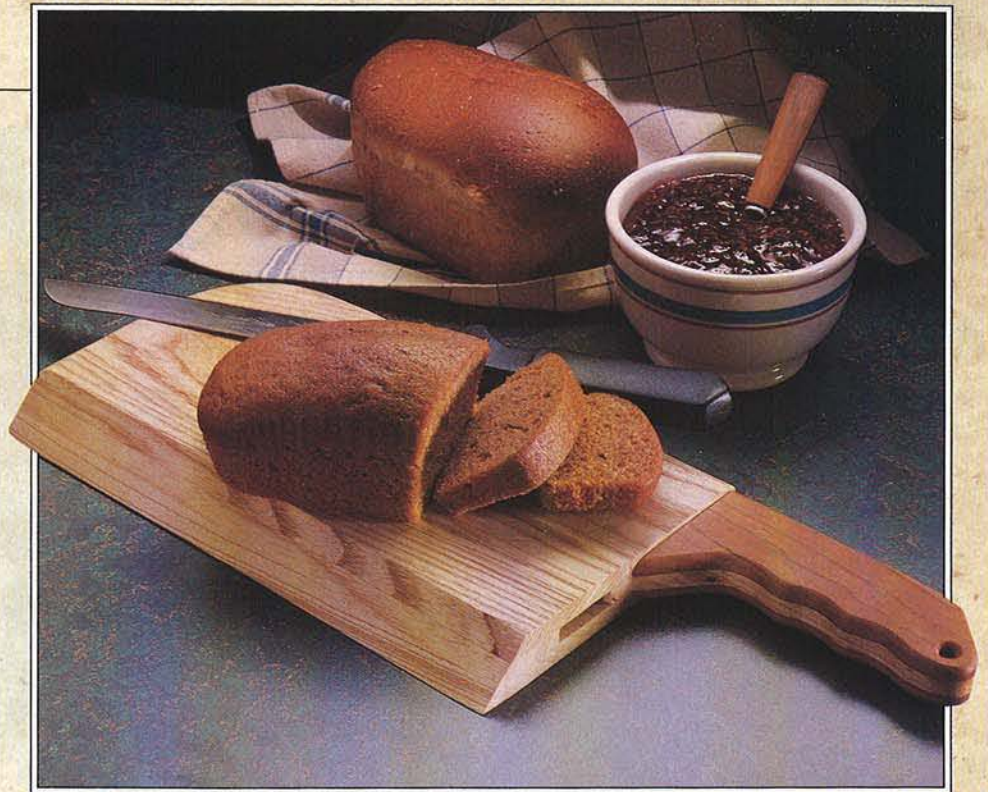
Mark and bore the three magnet holes where shown on the inside face of the remaining part D. (We used  $\frac{3}{4}$ "-diameter magnets  $\frac{3}{16}$ " thick that we bought at a crafts store.) Epoxy-glue the magnets into the holes.



# This handy little cutting board packs a knife

Glue the remaining part D in place. Saw the end of the board square, and then bandsaw the rounded corner. Sand the end and top edge smooth, and then rout  $\frac{1}{4}$ " round overs along both sides of the end and top. Bevel-rip the bottom to  $45^\circ$ . Sand, and finish with salad bowl oil. 🌲

Photograph: Wm. Hopkins  
Illustrations: Mike Henry; Kim Downing





Print this article

# DRESSER-TOP



It never hurts to make friends with a dragon, and here's one that any youngster will fall in love with. This amiable serpent even knows its owner's name, and isn't shy about saying who he belongs to.

1/8" holes



Using carbon paper and the full-sized letters *below*, spell out the name for your nameplate on 3/4" stock (we used maple). Overlap the letters slightly, keeping the baseline straight.

Drill 1/8" holes in the letters as necessary for inside cuts. Cut out the letters with a scrollsaw, using a #7 blade (.043 x .016" with 12

teeth per inch). Sand where needed. Line up the letters in order, and wrap a rubber band around them to hold them together.

Transfer the full-sized pattern for the dragon's body to poster-board. Cut out the pattern with an X-Acto knife, and cut it in half where shown.

On a 3/4 x 3 x 10" board, mark a line the length of the board 1" from the bottom. Position the front and rear templates for the dragon's body on the board, matching the line on the templates with the line on the board.

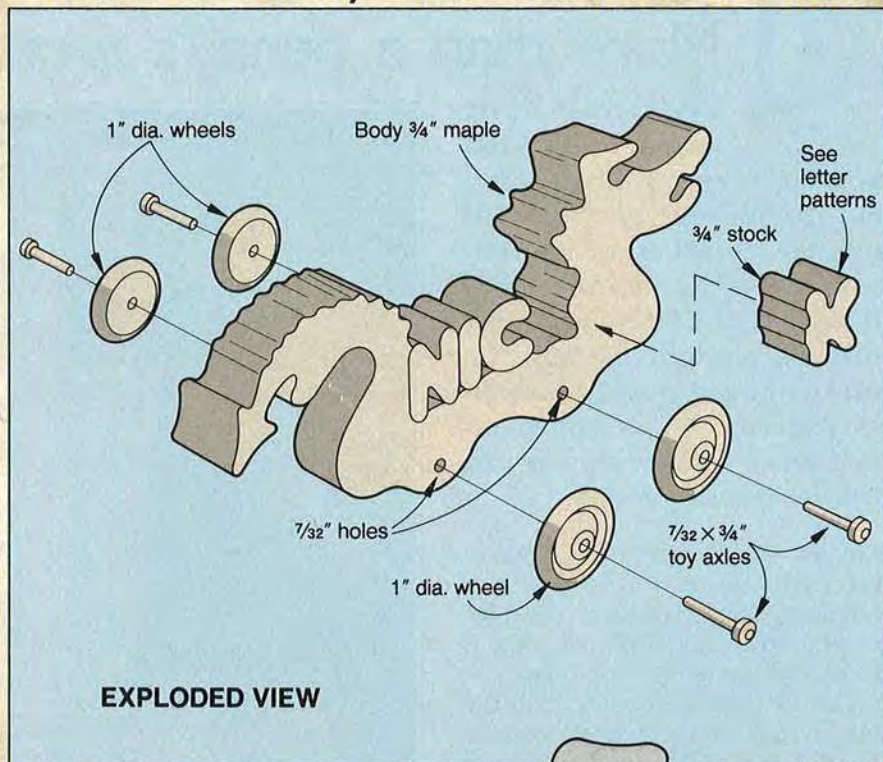


# DRAGON Kids know him by their names

Place the name on top of the templates with the first and last letters aligned where shown. Trace around the body templates and the name, adding additional feet (wheels) to the dragon for names with more than six or seven letters. Space the wheels evenly.

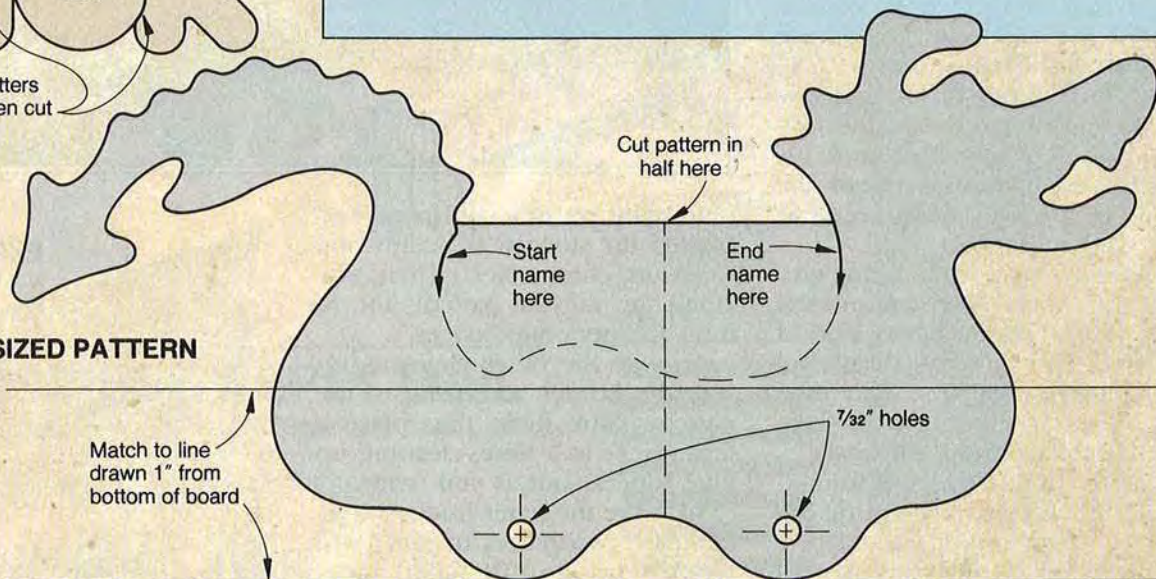
Drill  $\frac{7}{32}$ " holes where indicated, and then scrollsaw the dragon body. Attach 1"-diameter wooden toy wheels to the body with toy axle pegs glued into the holes. Don't pinch or glue the wheels. Apply a clear finish to the dragon body and wheels, and paint the letters with acrylic paints. 🌲

Project Design: The Woodshed, B. & C. Willey  
 Photograph: Wm. Hopkins Jr.  
 Illustrations: Jamie Downing; Mike Henry



NICK

Overlap letters slightly, then cut out name pattern



FULL-SIZED PATTERN

Match to line drawn 1" from bottom of board

Q R S T U V W X Y Z



# SUPERSTAMP

## More than a penny's worth of scrollsaw fun

This one-cent stamp won't send a letter very far these days, but you'll sure get a lot of mileage out of it as a scrollsaw pattern. Reader Dick Haughey of Clarendon Hills, Illinois, showed us how he uses enlarged postage stamps as patterns. We whipped up this letter holder so you can try the technique, too.

Cut two 7×8" pieces of 1/8" Baltic birch plywood. Photocopy the full-sized stamp pattern, *opposite page*. With spray adhesive, affix it to the good side of one piece.

On the patterned stock, drill the blade start holes where shown. Thread the scrollsaw blade (we used a #4 blade, .033×.014" with 15 teeth per inch), and saw George Washington's eye and other details. Then, saw around his profile and continue around the inside of the oval area to remove the waste.

Carefully saw around the outside of the oval. Next, cut out the leafy ornaments on either side of the oval. Saw out the details on the concave edge first, and then saw along the other edge to separate the foliage from the waste.

Saw out the letters and numerals, and then complete cutting out the stamp by sawing around the inside of the border. Cut straight lines and square corners for a neat job. Sand as necessary.

Begin assembling the stamp by gluing the cutout border to the remaining piece of wood, matching up the edges. Drill 3/16" holes around the pattern perimeter on the centers indicated. (We used a

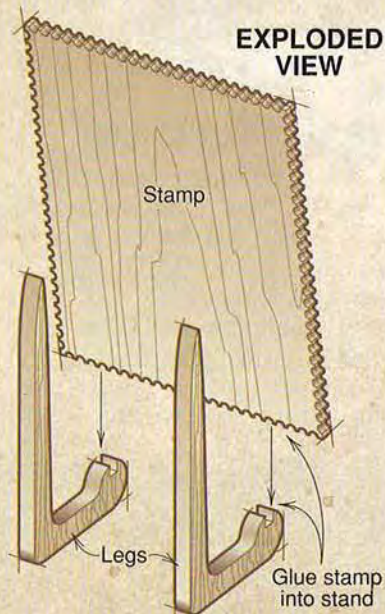


brad-point bit in a drill press and backed the stock with scrapwood to ensure clean holes.) Then, saw along the outside pattern line to form the perforated edges.

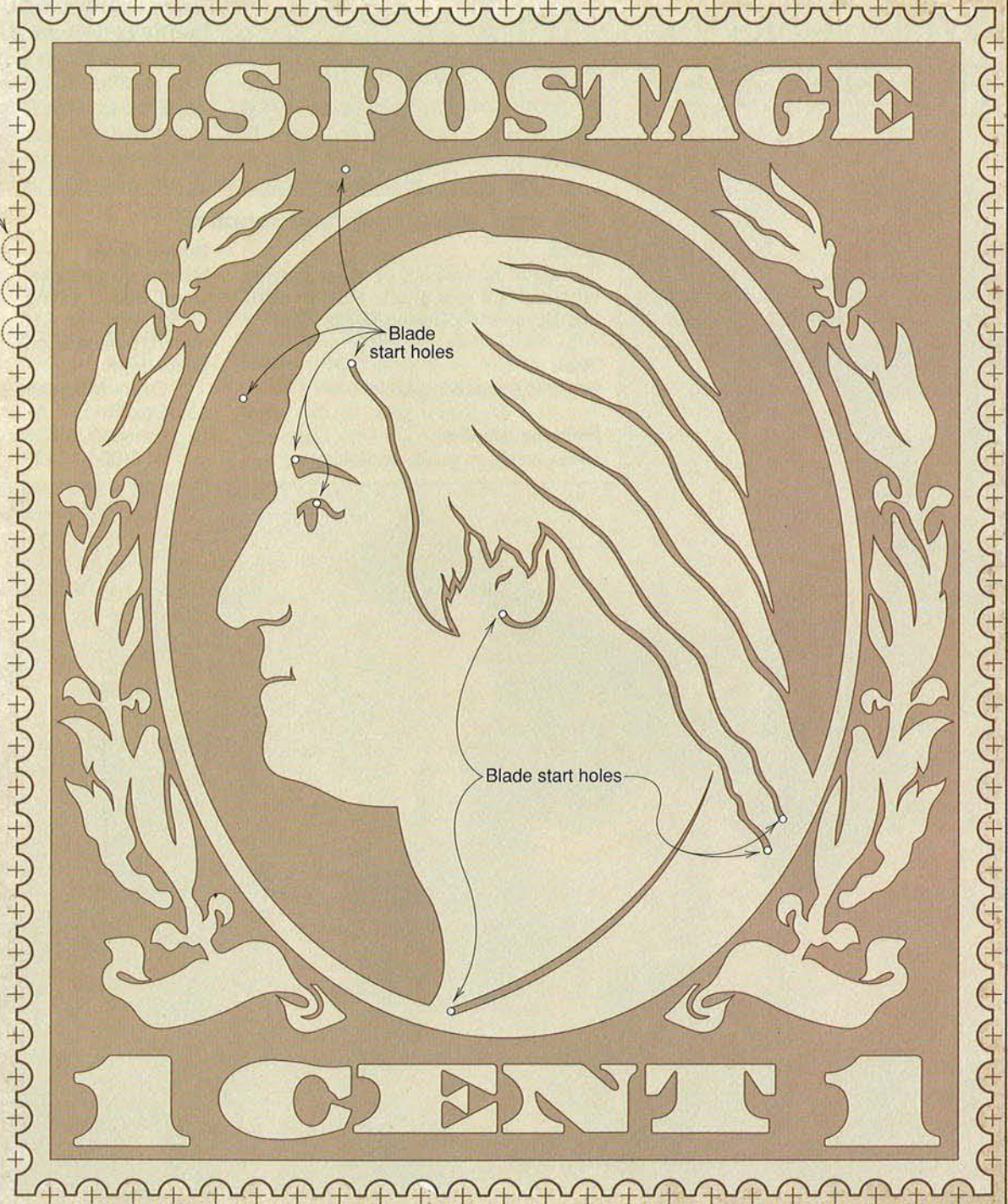
Arrange the other elements inside the border according to the pattern. Glue them into place a few pieces at a time, cleaning up glue squeeze-out as you work.

To make the letter holder's legs, laminate two pieces of 1/2×3×6" stock with double-faced tape. Trace the leg pattern onto the top of the stack, and cut around the outline. Cut the slot to fit the stamp tightly. Separate the pieces, and sand.

Glue the stamp into the supports where shown. Finish with clear lacquer. ♣



# LETTER HOLDER



Drill  $\frac{3}{16}$ " hole at each marked center, saw along line

Blade start holes

Blade start holes




LEG  
FULL-SIZED  
PATTERN

Illustrations: Mike Henry; Kim Downing

Photograph: Wm. Hopkins

# CARVE A COUPLE

## BONE UP ON WHITTLING IN FIVE EASY STEPS

 [Print this article](#)

You'll be barking up the wrong tree if you try to tell Virginian Bill Loftis that you can't carve. "If you want to, you can," sums up his view of woodcarving. Once you try whittling his hounds, you'll know he's right.

These carved dogs aren't just for show. To woodcarver Bill Loftis of Luray, Virginia, they're also for hunting. "Like many woodcarvers, I'm interested in getting everyone else started in carving," says Bill. And the dog caricatures he carves are just the ticket for flushing out would-be carvers.

### We used these tools and supplies

#### Stock

Butternut, basswood, or other carving wood  $1 \times 4\frac{1}{2} \times 4\frac{1}{2}$ ". For precut blanks, see the Buying Guide *right*.

#### Tools

Bench-type carving knife

#### Finishing supplies

Clear finish or paint, as desired

#### Buying Guide

**Hound dog blanks.** Bandsawed basswood blank, sitting or standing dog, \$5.50 each or \$10 for two (mix or match, please specify) ppd. in U.S.

Order from:

Ozark Mountain Crafts  
Box R  
Branson, MO 65616  
417/334-1843



# OF HOUN' DAWGS

The undeniable appeal of the carved canines first attracts attention. But what puts the beginning carver into the bag is Bill's five-step carving plan that anyone can follow. Starting with a pattern and working through those simple steps, "anyone with the desire can carve," Bill says flatly.

Even experienced hands will like carving Bill's hounds, though. And because they're small and require only a knife, these dogs make great take-along projects.



## STEP 1 Saw your blank.

Instead of whittling through a lot of waste wood, most carvers prefer to start with a sawn-out shape called a *blank*.

Blanks for more complicated carvings often are sawed on adjacent sides from two directions—top and side views or side and front views. But for either of these dogs a simple side-view cutout will suffice.

Start by tracing the *red* outline from one of the Full-Sized Patterns, *right*, onto your carving stock. Pay attention to the grain direction shown on the pattern. Saw around the outline with a bandsaw, scrollsaw, or coping saw. (If you don't want to saw your own blank, see the Buying Guide on the *opposite page*.)



## STEP 2 Draw your guidelines.

The blank itself doesn't give many clues as to where to carve, so you'll need to draw guidelines on it. The lines don't need to be draftsman-accurate, but they should indicate general shapes and locations of the carving's major features.

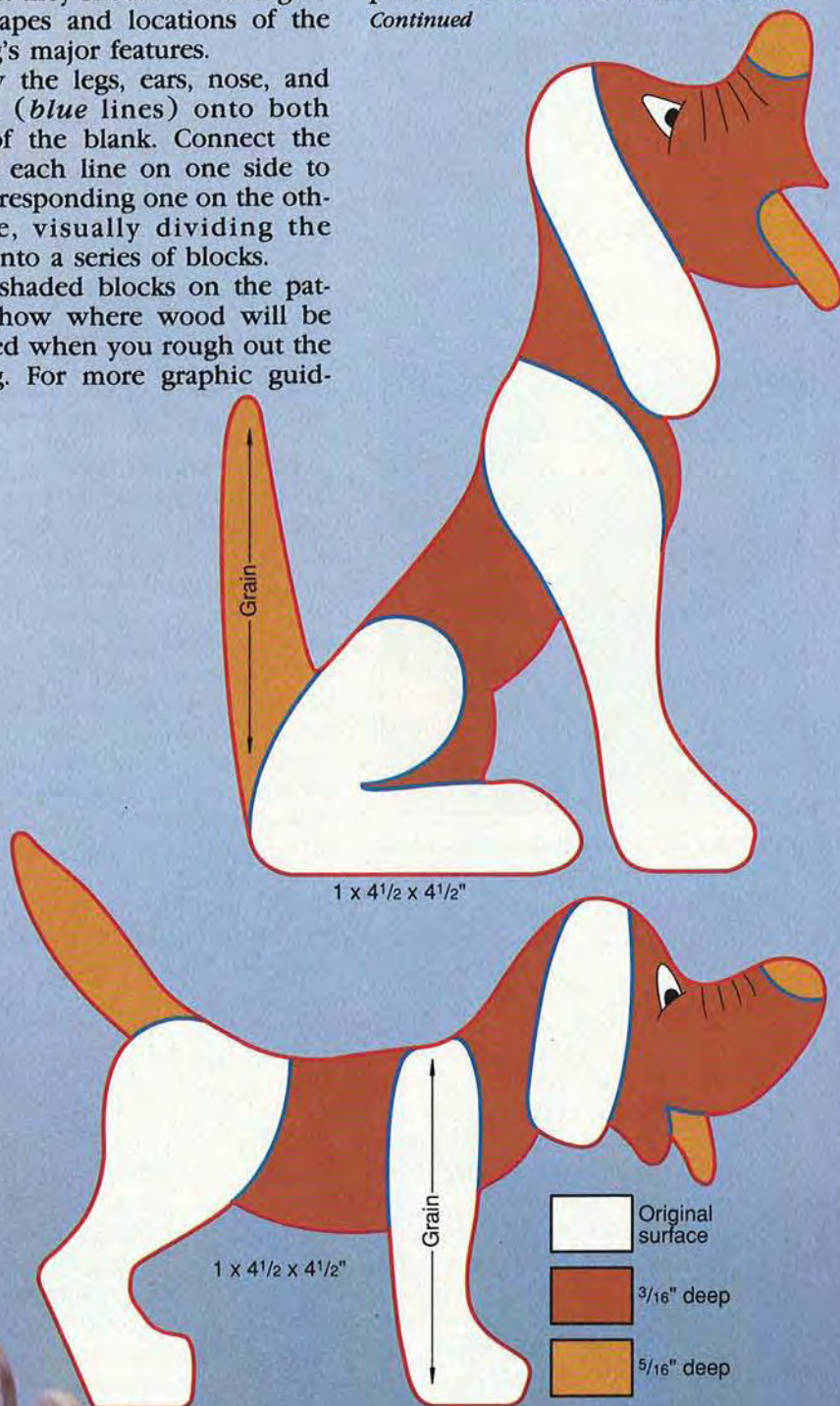
Draw the legs, ears, nose, and mouth (*blue* lines) onto both sides of the blank. Connect the end of each line on one side to the corresponding one on the other side, visually dividing the blank into a series of blocks.

The shaded blocks on the patterns show where wood will be removed when you rough out the carving. For more graphic guid-

ance, draw depth lines on your carving blank to indicate how much material you need to remove in these areas.

On the top and bottom in the body, neck, and face areas, draw the depth lines  $\frac{3}{16}$ " in from and parallel to each side of the blank.

*Continued*

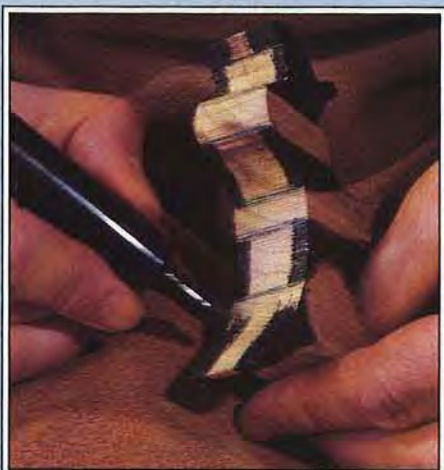




# HOUN' DAWGS

For the tail, nose, and tongue, draw the depth lines  $\frac{1}{16}$ " from each side. Divide the front and hind legs into equal widths with about  $\frac{3}{16}$ " between them.

For even better visualization, color the tail, body, neck, and face blocks on the side of the blank with a marker. Then, color the portion between the side of the blank and the depth line for each part, as shown *below*.



Coloring the waste areas on the blank with a marker assists in visualizing the roughed-out dog.

## STEP 3

### Make your stop cuts.

To carve a pattern, you must be able to cut right up to a line without chipping out the wood beyond the line. Incisions along the pattern line, called *stop cuts*, will accomplish that.

With the knife blade perpendicular to the blank, cut along each pattern line and depth line to stop-cut your hound. Cut on the waste side of the line, about  $\frac{1}{8}$ " deep, shown *above right*.



Stop-cut the pattern lines and depth lines before paring away the waste wood. Carve only as deep as your stop cuts or they won't do any good.

Stop-cutting comes with a catch, though. It only works if your stop-cuts are as deep as the cut you're making. In other words, if you stop-cut  $\frac{1}{8}$ " deep and then dig your knife in to carve out a  $\frac{3}{16}$ " chip, your stop cut will do no good. You'll watch in dismay as the wood tears out far beyond the pattern line, ripping right past the stop-cut you thought would save you.

And don't try to jam the knife in far enough to reach full depth in one cut. You'll be most successful if you stop-cut, carve a little, and then stop-cut again.

By working in shallow stages, you'll minimize the chances of going astray. And if you do, the damage will be easier to repair or work around.

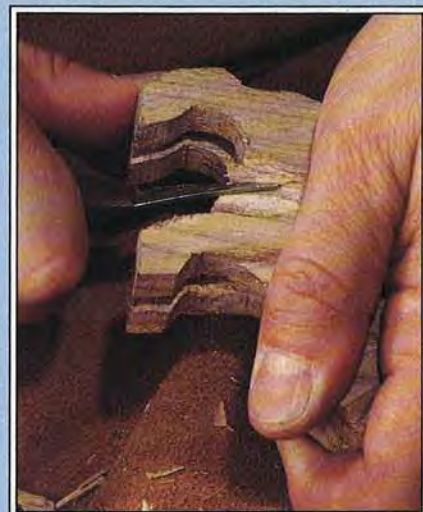
## STEP 4

### Rough out your dog.

With the prelims over, you now can cut away wood to shape that blank into Bowser. Start by establishing basic proportions and shapes, a process known as *roughing out* the carving.

First, carve the shaded wood away from the body, neck, and face. Next, separate the legs. For easier wood removal, drill a few  $\frac{3}{16}$ " holes between them.

Alternately stop-cut and pare away waste wood to bring the carving down to a series of flat-sided blocks, shown *below*. Don't worry about rounding edges or developing curves yet.



Carve flat surfaces as you rough out the dog. Later, you'll round the body and add the details.



Keep your knife sharp to make clean cuts, especially across end grain. A dull knife will spoil your carving enjoyment. And it can be dangerous, too; pushing a dull knife through wood requires more force, which can cause you to lose control.

You can take moderately deep cuts while roughing out, but remember not to go deeper than your stop cuts if you're working toward a line. Control cutting depth by laying the bevel of the knife blade on the wood, and then raising the back of the blade just enough to pare off a shaving.

In some spots you can use a pencil-sharpening (or carrot-peeling, if you prefer) motion to cut away a lot of wood quickly. For the best control and results, carve with the grain whenever possible.

Rough out the nose, tongue, and tail last. When carving the tongue, redraw the blue line for the mouth, and carefully carve to it with the tip of your knife, as shown *above*.

### STEP 5 Now, make it your dawg.

Hot dog! Now your carving looks decidedly like a dog. It's a blocky, rude one, but recognizable nonetheless. From this point, it's up to you to give your carving the personality that will turn it into a *dawg*.

Taking small cuts, round the corners of the body, legs, face, and nose. Curve the sides slightly to form oval cross sections. (Leave the tongue and tail until last—they're less likely to break off that way.) Smooth the surfaces, blending them together, as *below*.

Fair the ears into the top of the head, letting them hang below the neck. Make the ears about 1/16–1/8" thick at the bottom.



Take light cuts when surfacing the carving. Shave the surface smooth, but let some knife marks remain as a sign of hand-carving, if you prefer.

Taper the face and muzzle toward the nose, adding a series of notches on the muzzle to represent wrinkles. Experiment with nose shapes to give your dawg its own personality.

For the eyes, inscribe a tall arc on each side of the face. Drill a small hole near the center bottom by rotating the tip of your knife, as shown *below*.



Rotate the tip of the knife in the wood to drill a small hole for the eye.

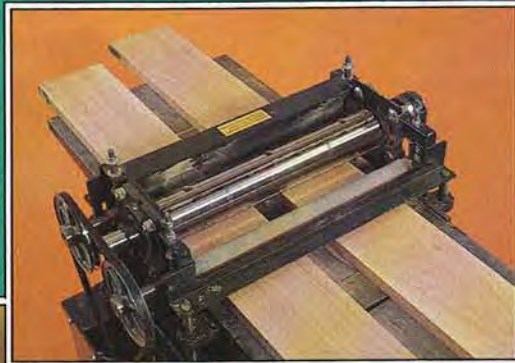
Finish up with the tongue and tail. Sand with 150-grit sandpaper to remove fuzz and slivers. Finish as desired. (We applied Danish oil to our dawgs.) ♣

Project Design: ©Bill Loftis  
Written by Larry Johnston  
Illustrations: Mike Henry  
Photographs: John Hetherington; Wm. Hopkins

# PLANER/MOLDERS

LOOK WHAT THEY CAN DO

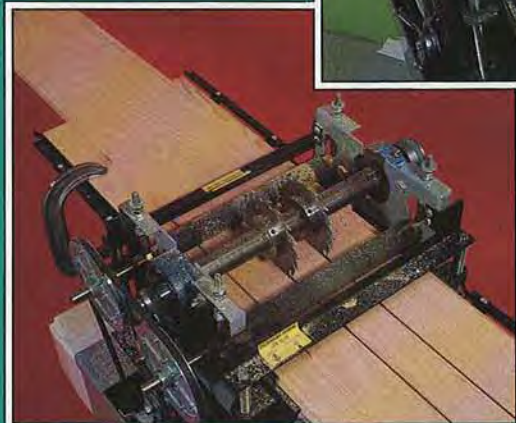
Planing



Molding



Sanding



Ripping

Looking to improve your shop's productivity without eating up a lot of work space? Perhaps one of the multipurpose planer/molders featured here can help.

## How planer/molders work

These versatile machines enable you to transform rough lumber into finished stock—quickly and conveniently. You can plane lumber to a desired thickness with any of them. And, by switching to the drum-sanding operation, you can sand the stock silky smooth. (The drum sanders work well for removing planer marks and other light sanding, but these machines are not designed for thickness sanding or other tasks that require heavy stock removal.)

Depending on the model you buy, you also can slip several 5½" or 6½" saw blades onto an accessory shaft and gang-rip stock up to 1¼" thick. (Gang-ripping means cutting two or more pieces of stock to width in one pass.)

**Note:** Of the three brands tested—Belsaw, RBI, and Woodmaster—only the Belsaw model does not rip stock, because it has a fixed cutterhead. The other machines have interchangeable cutterheads that you replace with an accessory shaft that holds saw blades or molding knives.

And finally, you can mold stock to any desired profile. With their standard-equipment 5-hp, 220-volt motors, all of these machines will cut up to five ¾"-thick moldings in one pass. All three manu-





**Left: RBI 612**  
(with optional  
dust-collection  
attachment)

**Center:**  
Belsaw 985-5

**Right:**  
Woodmaster  
718 (with op-  
tional dust-  
collection  
attachment)

They thickness-plane, mold,  
sand, and some even saw

facturers will custom-grind knives to your design if you can't find a suitable profile in their stock of molding knives.

### We tested the following machines

You can buy planer/molders in several sizes and in an array of packages tailored for specific uses. Although the machines differ from manufacturer to manufacturer, each brand of machine has nearly identical models that vary only in the width of their cutterheads and beds. For this article, we asked each maker to send us its most popular model and all of its accessories. RBI delivered us the model 612 with a 12"-wide cutterhead. (RBI also carries a lighter-duty 12" machine and a heavy-duty 20" version.) Woodmaster shipped the 18" model 718 (you also can buy similar 12" and 25" units). Belsaw supplied its only planer/molder, the 12" model 985-5.

In the chart on *page 66*, we list the prices of each machine in up to five option packages, just to give you an idea of accessory combinations and approximate costs. Keep in mind that you can custom-order a planer/molder to suit your needs, so be sure to discuss your requirements with the manufacturer before ordering.

### The advantages of owning a multipurpose planer/molder

No other single machine or combination of machines will perform as many tasks for the same initial investment as a planer/molder. (Most models cost less than \$2,000.) If you were to buy a thickness planer, shaper, and drum sander of equal power and capacity, the cost could easily be two to three times higher. To most woodworkers, this savings more than makes up for the time it takes to change from one function to another. (We cover this topic in depth later.)

And, the savings don't stop there. You can buy molding knives for these machines at a fraction of the cost of shaper cutters. Most molding knives, for instance, cost \$30-\$60 each. That compares with an investment of at least \$100-\$200 for shaper cutters that create the same or similar profile. Even large planer/molder knives such as those used for antique baseboards cost under \$100 per knife. And, standard molding heads require just one knife. Custom-ground knives cost about \$15-\$30 per inch.

Of course, these machines do not completely take the place of shapers. For instance, planer/molders will not make end-grain cuts, and they won't cut odd-

shaped workpieces such as arch-shaped raised panels.

But, if you just want to make moldings, you won't find a faster or safer machine in this price range. Because of a power-feed roller system, you can place several molding heads in the unit and cut moldings at rates up to 32 feet per minute. (Manufacturers recommend speeds of 11-12 fpm for best results with most hardwood stock.) And with power feeding, your hands never get near the knives during operation.

You also can maintain any of the models easily and affordably. Most of their parts, from nuts, bolts, and washers to belts, bearings, and motors, are off-the-shelf items available from hardware stores or industrial-supply houses. All three manufacturers also stock spare parts.

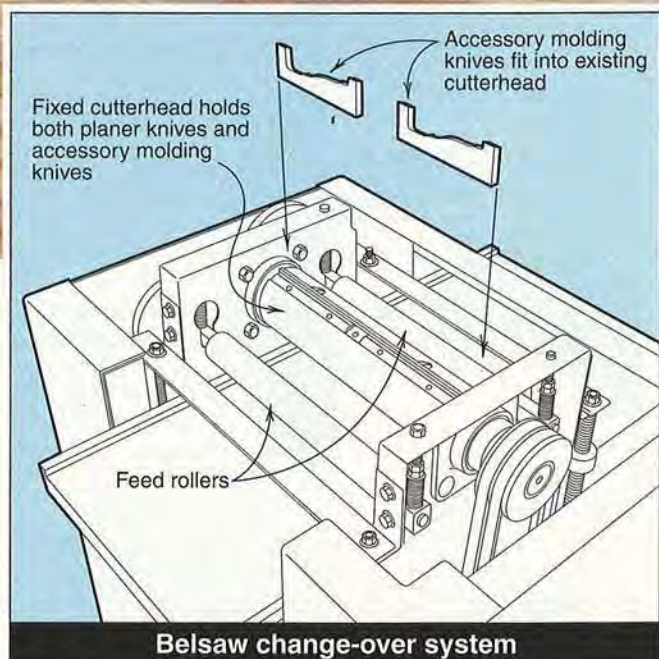
### All in the family: a look at the three manufacturers

Although different in many respects, all of these machines look similar at first glance, and even share many of the same parts. And that's no accident.

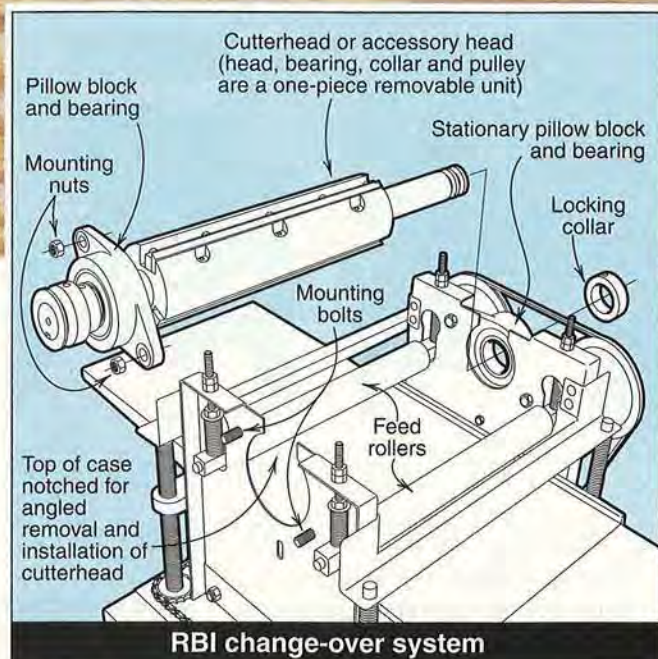
Today's multi-purpose planer/molders descended from the original Belsaw planer/molder produced in Kansas City, Mo., more than 50 years ago. This machine still had the market all to it-

*Continued*

# MULTIPURPOSE PLANER/MOLDERS



**Belsaw change-over system**



**RBI change-over system**

self in 1977 when Belsaw merged with Foley to form Foley-Belsaw. Then, production of the machine was moved from RBI (which manufactured the machine for Belsaw exclusively) to a former Foley plant in Minneapolis where Belsaw machines are still made today. (Belsaw and Foley have since parted ways.)

In 1980, Foley-Belsaw employee John Miller broke away from that company to form Woodmaster, and contracted with RBI to do the manufacturing. Then in 1985, RBI began producing and selling its own versions of the machine, and Miller shifted the production of his planer/molders to Progressive Manufacturing of Kansas City.

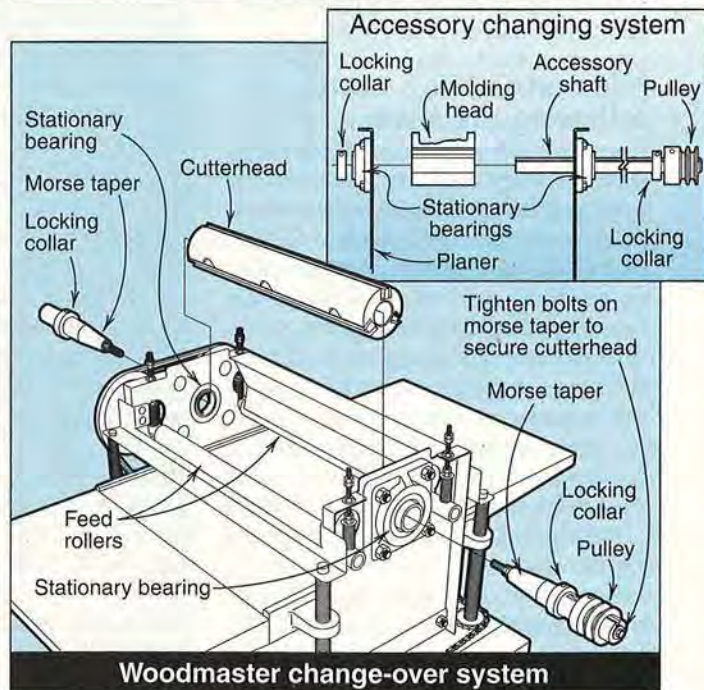
## Change-over systems: how they differ

We discovered the biggest difference between the three brands of machines when we changed them from one function, such as planing, to another job, such as molding, sanding, or ripping. Here's a look at each system.

The Belsaw 985-5, shown *above left*, has the most basic setup for changing functions. The cutterhead remains fixed, so you need

to remove the planer knives to change to molding or sanding. The molding knives fit into one of the three knife-holding grooves in the cutterhead (you need to place counterweights in the other two grooves). To drum-sand, you secure three pieces of sandpaper to the cutterhead surfaces between the grooves. Aluminum gibs hold the abrasive sheets in the cutterhead grooves.

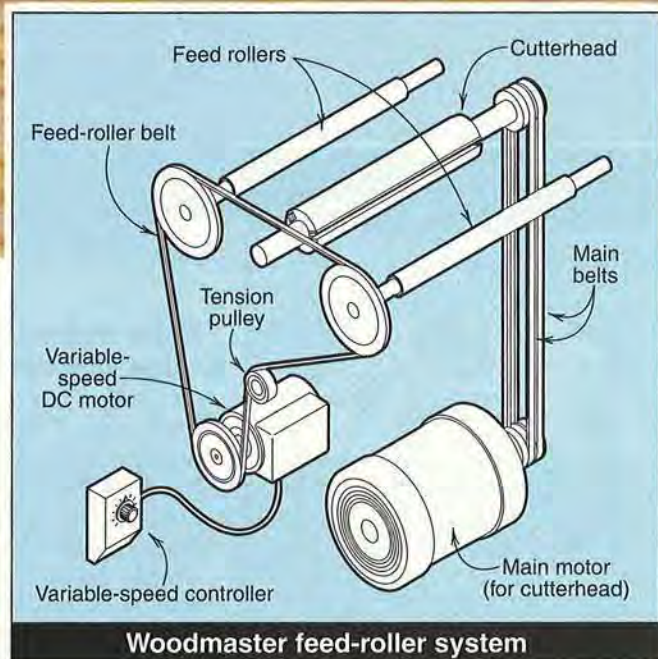
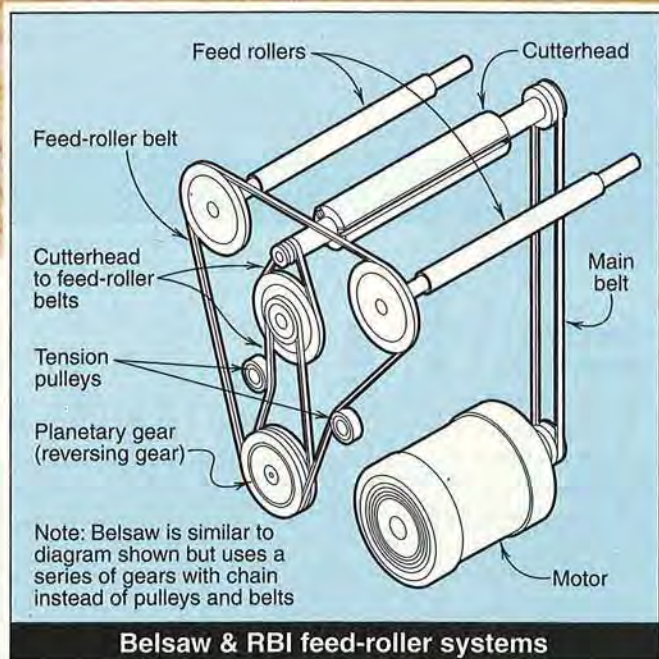
The RBI 612 and 820 models have the system shown *top right*. Here, you leave the planer knives in place and remove the cutterhead entirely. You put either a drum-sanding head or accessory shaft in its place. (The accessory shaft accommodates rip-saw blades or molding-knife holders.) Both of these have a pulley, and a



**Woodmaster change-over system**

pillow block containing a bearing, attached to them. You then replace the mounting nuts and hook up the belts.

The Woodmaster models use the system shown *above*. Here, 1½" Morse-taper shafts hold the cutterhead in place. To switch to another function, you remove the cutterhead and replace it with an accessory shaft that holds a sand-



ing drum, molding-knife holders, or rip-saw blades (see the inset illustration *left* for an idea of how these components go together).

Keep in mind that with the RBI and Woodmaster machines, you do not have to buy the accessory shafts and molding-knife holders to do molding. You could place molding knives into the cutterhead as you must do with the Belsaw unit. Although this procedure saves you money, it takes considerably longer because you must reset all of the planer knives before you plane again. If you can afford the accessory shafts, we strongly recommend you go this route. You'll quickly make up the extra cost in time savings.

In our tests, the Belsaw unit took us 25–30 minutes to change from planing to molding. Replacing the knives in the cutterhead took us another 10 minutes.

You'll save a good deal of time in changeovers with the RBI and Woodmaster units if you buy the accessory shafts. Because you leave the planer knives in the cutterhead, these machines only require 10–15 minutes for each change. The RBI system holds a slight edge over the Woodmaster

in terms of convenience, saving you maybe a minute or so between changeovers. But, the RBI cutterheads, sanding drum, and accessory shaft cost more because each one has its own bearing and pillow block.

### Feed-roller systems: points to keep in mind

All three brands of planer/molders employ a different type of feed-roller system—the mechanism that moves wood through the machine during an operation. As shown *above left*, the main motors on the Belsaw and RBI machines power the cutterhead *and* the feed rollers. The machines do differ in that RBI has a pulley-and-belt system for the feed rollers whereas the Belsaw has sprockets and chains.

With both of these systems, the rotation speed of the feed rollers maintains pace with the cutterhead. If the cutterhead slows down because of a deep cut, the rate of feed will slow down also. This maintains a consistent number of cuts per inch.

Both the Belsaw and RBI 612 and 820 units have two speeds. The Belsaw comes set up to run at

a feed rate of 12 feet per minute, and the RBI machines run at 11 feet per minute for most applications. You can change the speed of the Belsaw to 20 feet per minute by purchasing and installing a special sprocket. This requires some effort, but the RBI changes speeds quite easily. All you need do is reconfigure the belts that power the feed rollers.

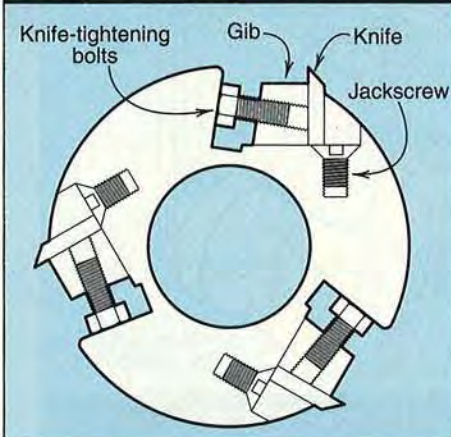
Woodmaster takes an altogether different approach. As shown *above right*, Woodmaster's feed rollers operate independently of the cutterhead because they're powered by a variable-speed DC motor. This means all of the main motor's power goes into the cutting action, and you can slow the feed rate down to a crawl if necessary. The DC motor will continue to feed the stock in the event the cutterhead bogs down, but this won't happen if you operate the machine properly.

Although we didn't need the variable-speed feature for about 90 percent of our test work, it does come in handy at times. By slowing down the speed, you can get especially smooth cuts without any grain tear-out in highly figured woods.

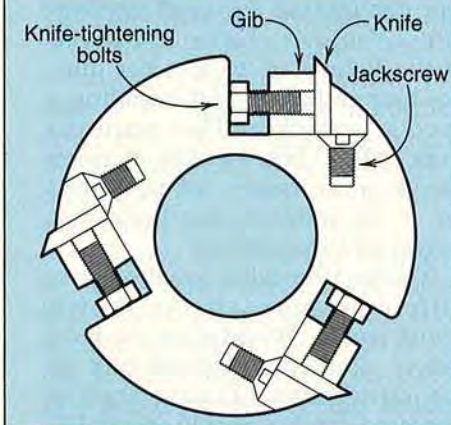
*Continued*

# MULTIPURPOSE PLANER/MOLDERS

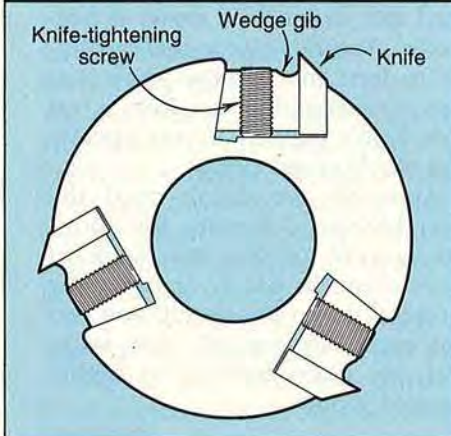
**Woodmaster cross-bolt cutterhead**



**RBI cross-bolt cutterhead**



**Belsaw cutterhead**



## Knife-locking mechanisms: some differences here, too

As shown in the drawings left, both the RBI and Woodmaster machines have cross-bolt systems for locking the knives into the cutterhead. To adjust the three planer knives into alignment, you simply raise or lower them with the jackscrews, and then tighten them into place with the knife-tightening bolts. We found that these systems make the tedious chore of precisely setting knives as easy as possible.

With the Belsaw system, however, you tighten setscrews that raise the gibs and wedge the planer knives into position. As you tighten the screws, the knives tend to climb up also. You then tap the knives with a block of wood and a mallet before final tightening. We found it difficult to fight this climbing effect.

The molding-knife holders on the RBI and Woodmaster machines use wedge gibs similar to those in the Belsaw cutterhead. But, since each holder has only

MANUFACTURER/ IMPORTER	MODEL	TYPE (1)	MOTOR			
			VOLTS	HORSEPOWER	AMPS	SWITCH TYPE (2)
BELSAW	985-5	TEFC	220	5	23.5	M
RBI	812	TEFC	220	2	10	P
	612	TEFC	220	5 (11)	26	M
	820	TEFC	220	5	26	M
WOODMASTER	712	TEFC	220	5	23	R
	718	TEFC	220	5	23	R
	725	TEFC	220	5	23	R

**NOTES:**

- (TEFC) Totally enclosed, fan cooled
- (M) Magnetic safety switch (P) Standard pushbutton switch  
(R) Standard rotary switch
- (a) accessory shaft (k) knife-setting gauge  
(c) casters (m) molding head  
(cb) cutterbits (mg) molding guide system  
(ch) cutter-bit holders (n) RBIdeas newsletter  
(ck) custom-molding knives (p) preventative-maintenance kit  
(cs) cutterhead stands (pk) planer knives  
(d) dust-collection attachment (r) rip-saw kit  
(ds) drum-sanding kit (s) 20-fpm feed sprocket  
(e) edge-molding guides (sk) stock molding knives  
(et) extension tables (w) bed wax  
(i) instructional video tapes



## A COMPARISON OF MULTIPURPOSE PLANER/MOLDERS

BED SIZE (INCHES)			FEED RATE (FEET PER MINUTE)	CUTS PER INCH	MAXIMUM THICKNESS OF WORKPIECES (INCHES)	NUMBER OF PLANER KNIVES	ACCESSORIES (3)		WARRANTY (YEARS)		PRICE (4)				
WIDTH	LENGTH	LENGTH WITH EXTENSION TABLES					STANDARD	OPTIONAL	MOTOR	MACHINE	PLANER ONLY	PLANER-MOLDER (5)	PLANER-MOLDER-SANDER (6)	PLANER-MOLDER-SAW (7)	PLANER-MOLDER-SANDER-SAW (8)
12 <sup>3</sup> / <sub>8</sub>	27 <sup>1</sup> / <sub>4</sub>	NOT AVAILABLE	12 or 20 (9)	94 or 56 (9)	6 <sup>1</sup> / <sub>4</sub>	3	pk	c, ck, d, ds, e, i, k, mg, p, s, sk, w	1	1 (10)	\$1,399.00	\$1,469.00	\$1,488.50	NOT AVAILABLE	NOT AVAILABLE
12 <sup>1</sup> / <sub>8</sub>	16 <sup>1</sup> / <sub>2</sub>	34 <sup>1</sup> / <sub>2</sub>	11	88	8	2	a, cb, ch, et, m, mg, n, pk	ck, cs, d, k, sk	1	3	NOT AVAILABLE	799.00	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
12 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>4</sub>	42	11 or 32 (12)	94 or 32 (12)	6 <sup>1</sup> / <sub>2</sub>	3	et, k, n, pk	ck, cs, ds, m, mg, r, sk	1	3	1,299.00	1,497.00	1,746.00	1,587.00	1,915.00
20 <sup>1</sup> / <sub>2</sub>	19 <sup>1</sup> / <sub>4</sub>	44 <sup>1</sup> / <sub>4</sub>	11 or 32 (12)	93 or 31 (12)	8	3			1	3	1,749.00	1,983.00	2,282.00	2,073.00	2,467.00
12 <sup>1</sup> / <sub>4</sub>	18 <sup>3</sup> / <sub>8</sub>	42 <sup>9</sup> / <sub>16</sub>	0 to 16	0 to 1,000	6 <sup>3</sup> / <sub>4</sub>	3	et, k, pk	a, c, cb, ch, ck, d, ds, i, m, mg, r, sk	1	3	1,299.00	1,410.00	1,509.00	1,500.00	1,599.00
18 <sup>1</sup> / <sub>2</sub>	18 <sup>1</sup> / <sub>2</sub>	42 <sup>9</sup> / <sub>16</sub>	0 to 16	0 to 1,000	6 <sup>3</sup> / <sub>4</sub>	3			1	3	1,699.00	1,740.00	1,909.00	1,830.00	1,999.00
25	25	49	0 to 16	0 to 1,000	6 <sup>3</sup> / <sub>4</sub>	3			1	3	2,399.00	2,710.00	2,909.00	2,800.00	2,999.00

4. Prices do not include shipping costs. Prices current at time of article's production.

5. All of the machines come with cutterheads that hold molding knives. Prices in this column include optional accessory shaft, one molding-knife holder, and adjustable bed board. The Belsaw 985-5, and RBI 812 do not accept accessory shafts and molding-knife holders, so with these machines you must mount molding knives into the same cutterhead that holds the planer knives.

6. These packages include one accessory shaft, one molding-knife holder, one adjustable bed board and drum-sanding assembly. The Belsaw 985-5 does not include accessory shaft or molding-knife holder (see note 5).

7. These packages include one accessory shaft, one molding-knife holder, one adjustable bed board, and one gang-saw blade with hub.

8. These packages include all of the items listed in note 7 plus the drum-sanding accessory.

9. Belsaw machine comes set-up for feed rate of 12 feet per minute (94 cuts per inch). To change to faster feed rate you must purchase and install 20-fpm feed sprocket (\$14.95).

10. Extended warranty available.

11. RBI model 612 available with 3-hp motor for \$150 less.

12. RBI models 612 and 820 come set up for feed rate of 11 feet per minute (94 cuts per inch). To change to faster feed rate you must reconfigure the drive belts.

one knife, you don't have the alignment problem that you do with the three-knife cutterheads.

Woodmaster recently came out with an improvement to its molding knives and gibs. As you can see *left*, RBI and Woodmaster molding-knife holders appear identical, but the Woodmaster knife and gib have corrugated

*Left:* RBI and Woodmaster have identical molding-knife holders except that Woodmaster's knives and gibs (*right side of the photo*) feature milled corrugations for holding the knife.

ridges milled into them. In our tests, this system helped the knife remain parallel to the molding head as we tightened the screws in the gib. This system eliminates the possibility (albeit a remote one) of the knives flying out of the knife holder during operation. RBI officials plan to introduce a corrugated knife/gib system in the near future.

### What you should know about planer/molder motors

All of the machines we tested came with 5-hp motors, but the

RBI motor was larger and capable of sustaining a continuous 5-hp load for a longer period of time than the motors on the other two models. RBI officials told us that many of their customers request this motor because they use the molder/planer for long periods of time in commercial-production situations. Woodmaster also will supply a similar motor for an additional fee, if a customer requests it. In our tests, all of the motors seemed sufficiently powerful. All featured totally-enclosed, fan-cooled construction.

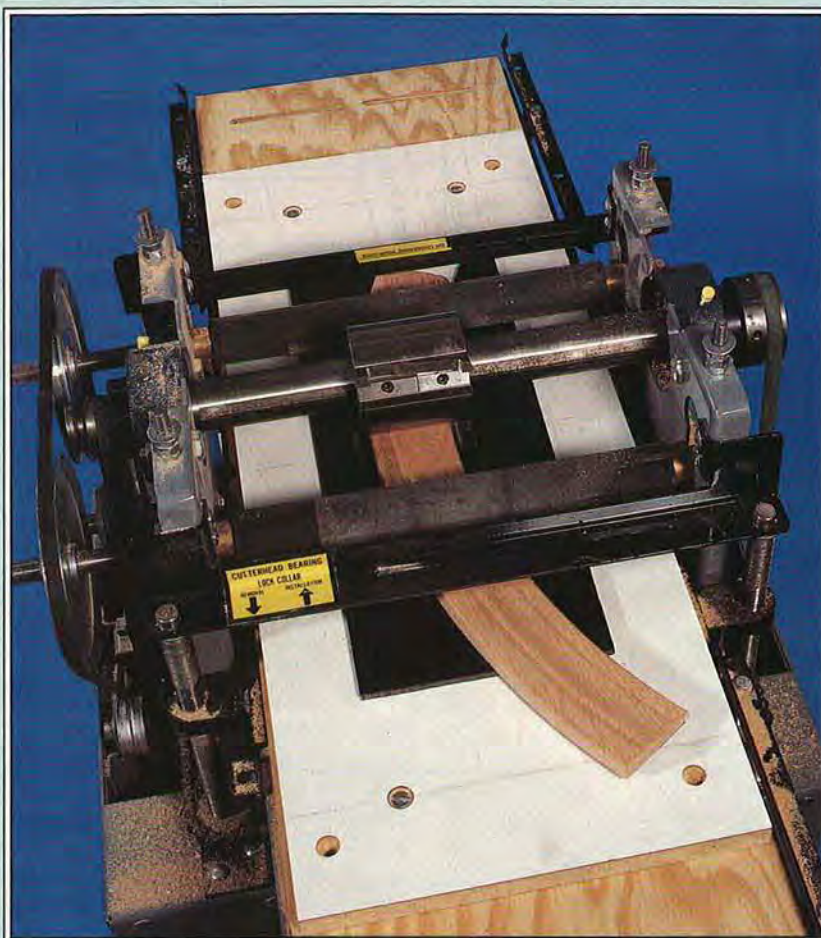
*Continued*

# MULTIPURPOSE PLANER/MOLDERS

## SOME NIFTY ACCESSORIES

For any of these machines, we consider the optional dust-collection attachments to be must-have accessories. These machines produce large volumes of sawdust and chips no matter what operation you put them through. We hooked all of the machines up to a 3-hp dust collector and all of the dust-collection attachments worked well. When drum-sanding, you absolutely must have dust collection for the machine to operate properly. Without it, the drum will quickly load up with debris, rendering it useless.

If you want to make curved moldings, you should know about a new accessory from RBI. Its curved-molding fixture (shown *right*), consists of a guide board and curved templates that you screw to the bottom of a work-piece. Three different guide boards and templates help you make curved moldings with 15", 18", or 24" radii. The accessory sells for \$129.



RBI's curved-molding accessory helps you cut moldings with 15", 18", or 24" radii. Templates screwed to the bottom of the molding guide it along.

### Recommendations

We found the RBI and Woodmaster to be closely matched machines, with the Belsaw lagging behind. Since getting into the molder/planer business, RBI and Woodmaster have substantially improved on the basic molder/planer design by adding quick-

change accessories and gang-ripping capability. Meanwhile, the Belsaw machine has changed little over the years.

Our advice: Closely examine the points made in this article, and then determine how big of a machine you need, and what ac-

cessories best fit your work requirements. Then, call each manufacturer, explain your needs, and ask for a quote on a machine tailored to your requirements. Consider which manufacturer spends the most time with you and offers the best advice. ♣

### Manufacturers Listing:

#### Belsaw

4111 Central Avenue N.E.  
Minneapolis, MN 55421  
800/468-4449  
612/781-0575

#### RBI

1801 Vine St., P.O. Box 369  
Harrisonville, MO 64701  
800/487-2623  
816/884-3534

#### Woodmaster

1431 N. Topping  
Kansas City, MO 64120  
800/821-6651  
816/483-0078

Written by Bill Krier Technical consultant: George Granseth Illustrations: Kim Downing Photographs: John Hetherington

CRAFTSMAN-STYLE

# WALL LANTERN

TURN-OF-THE CENTURY  
LOOKS STILL FRESH TODAY

Want to replace your dated exterior lights with something more stylish? Now, with this pleasing outdoor light, you can. We accented our design with stained glass, a decorative grille, and a large overhanging roof. To install, consider post-mounting your light as shown here, or attach it to your house adjacent to an exterior door. Build several and use them to brighten up your deck or patio.

## Start with the lantern frames

*Note: To enable your light(s) to stand up to the elements, adhere the pieces using Titebond II water-resistant glue or slow-set epoxy.*

**1** From  $\frac{3}{4}$ " Honduras (genuine) mahogany (not Philippine mahogany, which is not a true mahogany, and is not as durable), cut the frame stiles (A), bottom rails (B), and top rails (C) to the sizes listed in the Bill of Materials.

**2** Glue and clamp each of the four frames together in the configuration shown on Step 1 of the Frame Assembly drawing.

**3** To strengthen the weak butt joints, use a doweling jig and drill a  $\frac{3}{8}$ " hole  $1\frac{1}{2}$ " deep at each joint where shown on Step 1 of the Frame Assembly drawing and as shown in photo A.

**4** Cut sixteen  $\frac{3}{8}$ " dowels to  $1\frac{3}{4}$ " long. Glue a dowel in each hole. Later, trim the protruding dowels flush with the outside edges of each frame. Sand both surfaces of each frame.

**5** Fit your table-mounted router with a rabbeting bit, and rout a  $\frac{1}{4}$ " rabbet  $\frac{3}{8}$ " deep along the back inside edge of each frame. Chisel the round-routed corners square.

**6** Tilt your tablesaw blade to  $45^\circ$ , and bevel-rip both edges of each frame as shown in Step 2 of the Frame Assembly drawing.

*Continued*

# LANTERN

**7** To glue the frames together, lay the frames bevel side down on your workbench. Apply masking tape along the three mating edges where shown in Step 3 of the drawing. Carefully flip the assembly over, and apply glue to the mating beveled edges.

**8** Stand the assembly upright, and apply tape along the remaining corner. As shown in photo B, use a pair of band clamps to clamp the four frames together. Not only does the masking tape help hold the pieces in place while you apply the band clamps, it also prevents glue from squeezing out onto the outside of the frames.

**9** For attaching to the roof assembly later, drill and countersink a mounting hole in two opposite top rails where shown on the Exploded View drawing.

## Now, let's add the decorative grilles

**1** Resaw or plane thicker stock to  $\frac{1}{4}$ " thick, and then rip three  $\frac{1}{4} \times \frac{1}{4} \times 40$ " pieces for grille parts. Crosscut eight upright grille parts (D) and four crossbars (E) from the 40"-long strips.

**2** Fit your tablesaw with a  $\frac{1}{4}$ " dado blade, and cut dados in the grille parts where dimensioned on the Exploded View drawing. (We screwed a wooden auxiliary fence to our miter gauge. Then, we clamped a stopblock to the auxiliary fence to ensure consistency in the positioning of the dados from piece to piece.)

**3** Glue the four grille assemblies together, checking for square.

## Top your lantern with a stylish roof

**1** Using the dimensions on the Roof Supports drawing for reference, cut the roof-support blanks (F) to  $1\frac{7}{16} \times 15$ ". Mark the location of the tapers and mating notches. Cut the dados, and then bandsaw the tapers. Glue the two parts together.

**2** Using the dimensions on the Parts View drawing, lay out the roof-piece (G) outline onto a a



Using a doweling jig for alignment, drill a  $\frac{3}{8}$ " dowel hole at each butt joint.



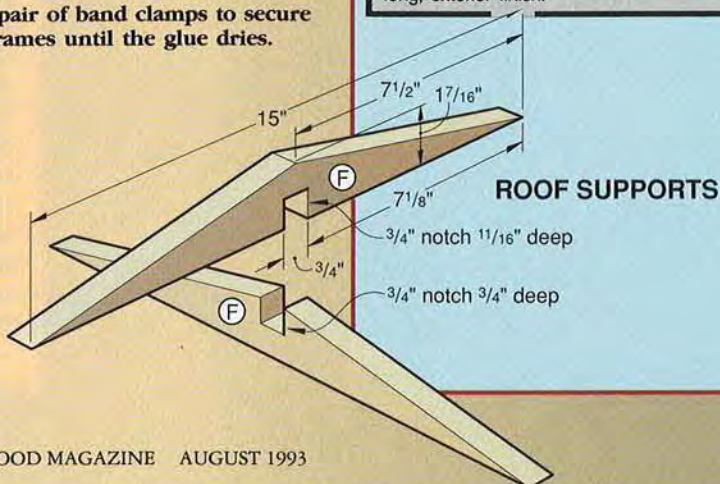
Tighten a pair of band clamps to secure the four frames until the glue dries.

## Bill of Materials

Part	Finished Size			Mater.	Qty.
	T	W	L		
FRAMES					
A stiles	$\frac{3}{4}$ "	$\frac{3}{4}$ "	12"	M	8
B bottom rails	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$4\frac{5}{8}$ "	M	4
C top rails	$\frac{3}{4}$ "	1"	$4\frac{5}{8}$ "	M	4
GRILLES					
D uprights	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$9\frac{1}{2}$ "	M	8
E crossbars	$\frac{1}{4}$ "	$\frac{1}{4}$ "	$4\frac{5}{8}$ "	M	4
ROOF					
F supports	$\frac{3}{4}$ "	$1\frac{7}{16}$ "	15"	M	2
G roof	$\frac{3}{4}$ "	$6\frac{1}{4}$ "	12"	M	4
H block	$\frac{3}{4}$ "	$1\frac{1}{2}$ "	$4\frac{5}{8}$ "	M	1
HANGER					
I upright	$\frac{3}{4}$ "	$2\frac{1}{4}$ "	$17\frac{3}{8}$ "	M	1
J support	$\frac{3}{4}$ "	1"	$14\frac{3}{8}$ "	M	1
K crossbars	$\frac{3}{4}$ "	1"	11"	M	2
L block	$\frac{3}{4}$ "	$\frac{3}{4}$ "	2"	M	1
POST (optional)					
M sides	$\frac{3}{4}$ "	$3\frac{1}{2}$ "	10'	M	2
N sides	$\frac{3}{4}$ "	2"	10'	M	2
O cap	$\frac{3}{4}$ "	$3\frac{1}{2}$ "	$3\frac{1}{2}$ "	M	1

### Material Key: M—Honduras mahogany

**Supplies:**  $\frac{1}{4}$ " dowel stock,  $\frac{3}{8}$ " dowel stock, two galvanized shingle nails with the heads cut off, #10 brass screw eyes, #8  $\times$   $1\frac{1}{4}$ " flathead brass wood screws, #8  $\times$   $1\frac{1}{2}$ " flathead brass wood screws, #10  $\times$   $1\frac{1}{2}$ " flathead brass wood screws, #10  $\times$   $2\frac{1}{2}$ " flathead brass wood screws, #10 brass finish (countersunk) washer, #8  $\times$   $\frac{3}{4}$ " panhead screws,  $\frac{1}{2} \times 4$ "-diameter ceiling pan, Romex connector, silicone sealant, four stained-glass panels, keyless porcelain socket, #16/2 neoprene insulated wire, #3 straight-link brass-plated machine chain 3" long, exterior finish.

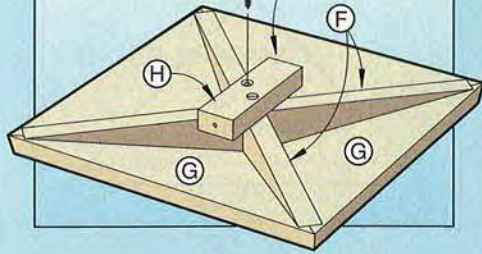


ROOF SUPPORTS



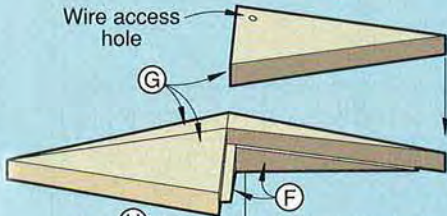
### ROOF DETAIL (Bottom View)

Center (H) onto bottom of roof



Wire access hole

G



7/64" pilot hole  
3/4" deep

H



1/2 x 4" ceiling pan

H



Keyless porcelain socket

H



#8 x 1 1/2" F.H. brass wood screw

H



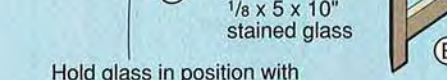
Romex connector

H



#8 x 3/4" panhead screw

H



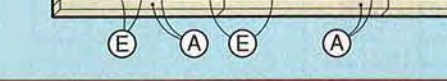
8-32 x 3/4" R.H. machine screws

H



5/32" hole, countersunk

C



31/16"

C



3/8"

C



1/8 x 5 x 10" stained glass

E



9 1/2"

A



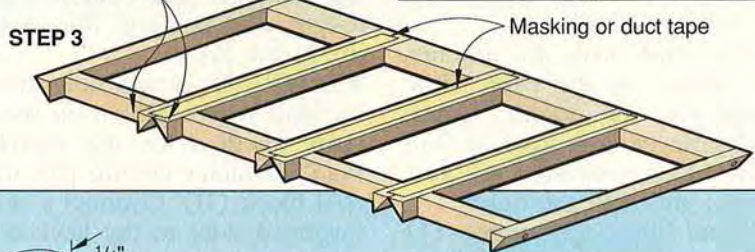
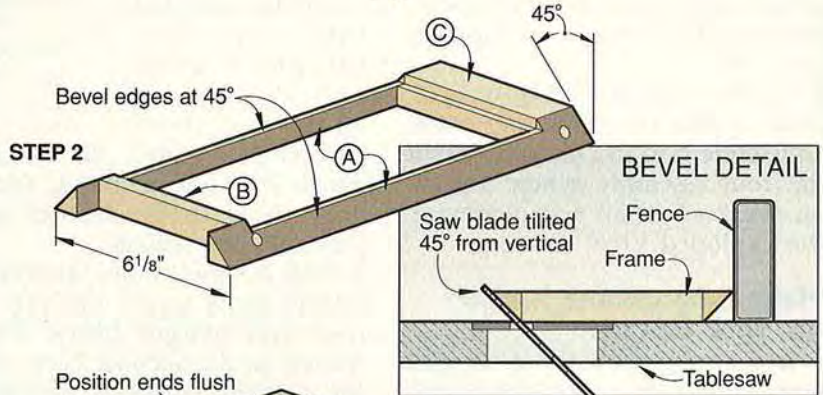
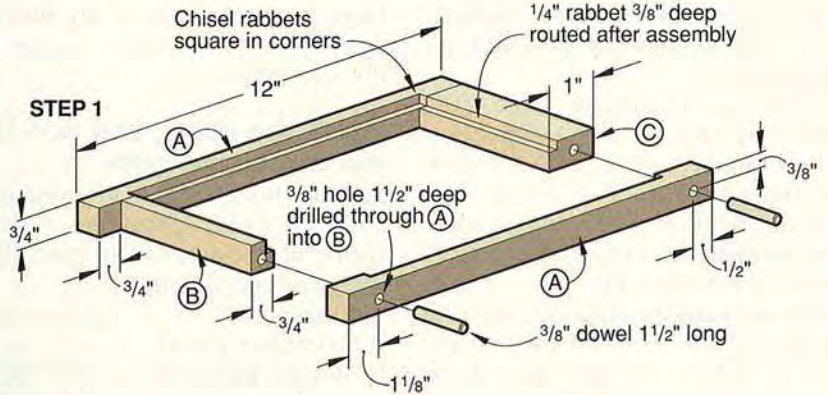
45/8"

B

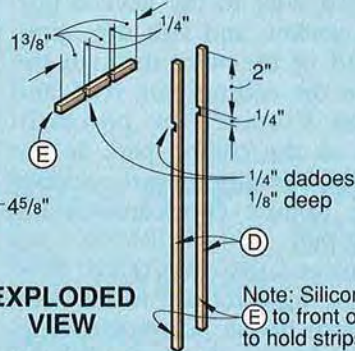


Hold glass in position with a bead of silicone around edge of glass

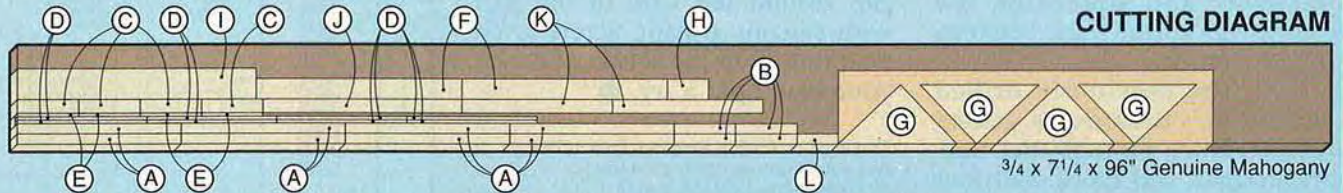
### FRAME ASSEMBLY



### EXPLODED VIEW



### CUTTING DIAGRAM



# LANTERN

piece of hardboard or 1/4" plywood. Cut the template to shape. Use the template to mark four roof-piece outlines on the mahogany stock as laid out on the Cutting Diagram.

**3** Tilt your bandsaw table 10°, and cut the four roof pieces where shown. Test-fit the pieces on top of the roof supports (F). Tilt the table on your disc sander, and sand the mating edges if necessary for a tight fit.

**4** Using masking tape as we did earlier with the lantern frames, glue and tape the roof pieces together. Later, glue the roof assembly (four Gs) to the roof supports (two Fs).

**5** Cut the roof block (H) to size. Drill a pair of mounting holes, and screw it to the bottom side of the roof assembly where shown on the Roof detail accompanying the Exploded View drawing.

## Make a handsome hanger for your lantern

**1** Rip and crosscut the hanger parts (I, J, K, L) to the sizes listed in the Bill of Materials.

**2** Lay out and mark the notches where shown on the Parts View drawing. Cut the notches. Mark the 1/4" hole centerpoints on the support (J), crossbars (K) and block (L) and drill the holes.

**3** Glue and screw the support (J) to the upright (I). Mark the location and drill the 3/8" wire access hole through J and I.

**4** Snip the heads off of two galvanized shingle nails. Tap them into the inside face of one crossarm where shown on the Section View drawing. The nails will hold the electrical cord in place later.

**5** Glue the two crossarms to the upright/support assembly and block (L), checking the assembly for square and squeezing the headless galvanized nails between the two pieces.

**6** Using the previously drilled holes in the crossarms as guides, drill 1/4" holes through the support, upright, and block. Cut four pieces of 1/4" dowel stock to 2 1/2"

long. Glue the dowels in the holes just drilled and where shown on the Hanger Assembly drawing. Later, trim the ends of the dowels flush with the outside edges of the crossarms.

## Finish the parts, and add the electricals and glass

**1** Stain the project if desired and add the finish. (See the Buying Guide at the end of the article for the outdoor finish we used.)

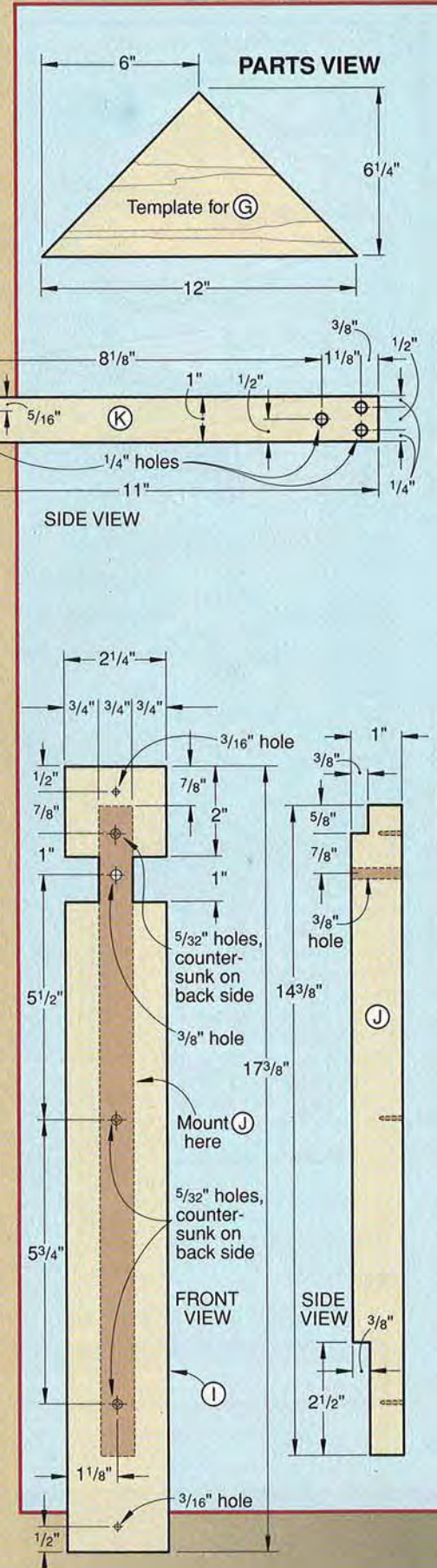
**2** Have four pieces of stained glass cut to fit the rabbeted openings (we bought a glass called Kokomo 11ML at a local stained-glass store). Fit the glass panels into the openings, and secure them to the frames with clear silicone sealant.

**3** Drill the pilot holes, and thread a #10 brass screw eye into the roof and hanger block where shown on the Section View drawing. Cut the brass-plated chain to length, and connect the chain to the screw eyes.

**4** Drill a wire-access hole through the roof where shown on the Section View drawing. Fasten a 1/2x4"-diameter ceiling pan to the roof block (H). Connect a #16/2 insulated wire to the keyless porcelain socket, and run the opposite end of the wire through the hole in the ceiling pan, roof, and bracket. Connect the porcelain socket to the ceiling pan. Secure the wire by tightening the screws in the Romex connector at the ceiling pan.

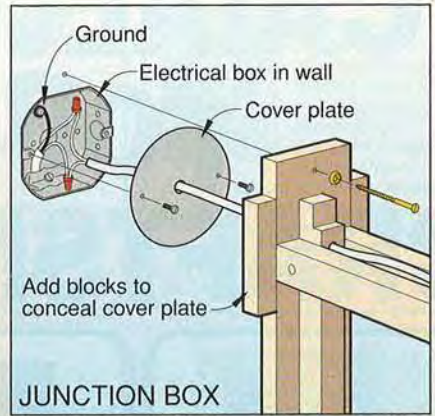
**5** Connect the insulated wire from the light fixture to the wire from your house. Screw the hanger assembly to the wall. Fill the gap around the wire in the roof with silicone sealant. Screw a 60-watt bulb into the socket and give your new light a try. 🍷

Produced by Marlen Kemmet. Project Design: James R. Downing; Marlen Kemmet. Photographs: John Hetherington. Illustrations: Kim Downing.



## Junction box

If you intend to mount your light directly to your house and over a switch-operated junction box, drill a hole in the center of the cover plate, run wire through it, make the connections, and screw the plate to the junction box where shown on the Junction Box drawing. Screw the light to the wall, and then cut and add a pair of blocks for each side of the upright to hide the cover plate.



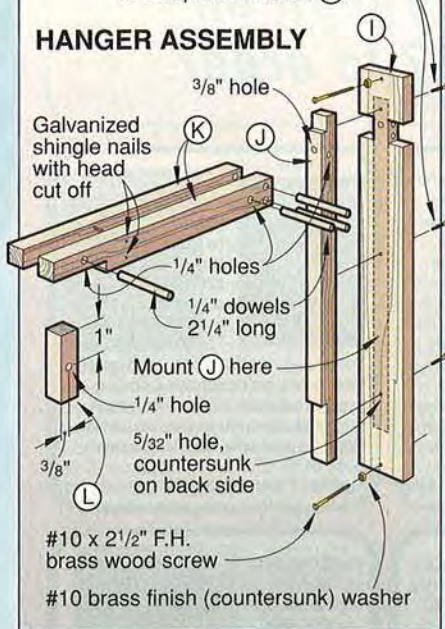
JUNCTION BOX

See the Post Mount drawing for details on hanging the lantern from a post. Check local codes for depth to bury the wire

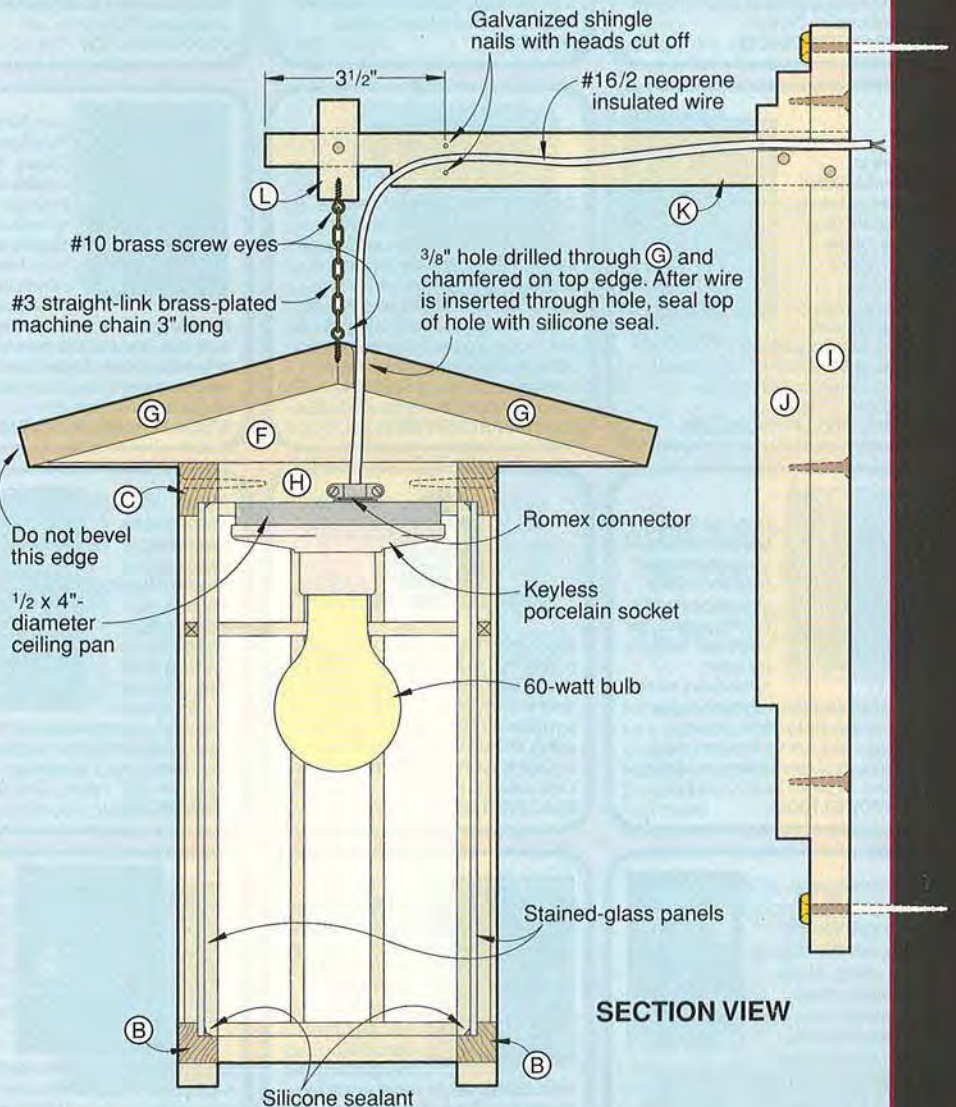
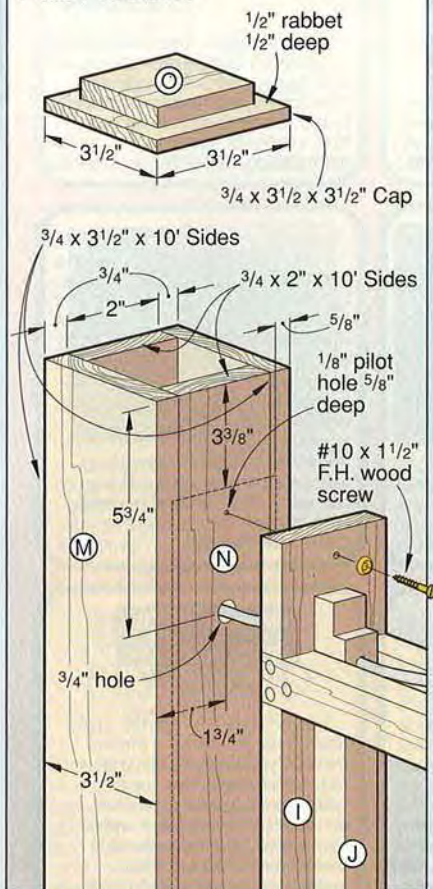
and post bottom. To make the post, we bought 10' boards, and buried the bottom end of the post 30" in the ground.

#8 x 1 1/4" F.H. brass wood screws  
Note: Requires a 7/64" pilot hole  
1/2" deep into back of J.

## HANGER ASSEMBLY

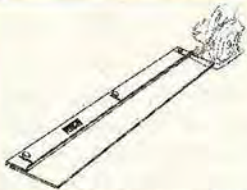


## POST MOUNT



# CATALOGS FOR CRAFTSMEN

Select the catalogs you  
want from over 70 listings!  
Use coupon on  
page 77 to order.



**FAST, ACCURATE PLYMATE SAW GUIDE** also saves time and money when used with your circular saw for cutting plywood. Easier to use than any on the market. Made in USA of sturdy extruded aluminum. Send for free information. Circle #1.  
**OLIVE KNOT PRODUCTS**



Moisture-related problems such as shrinking, warping and cracking can ruin the most beautiful wooden pieces built. Avoid wood moisture problems by checking the wood with a moisture meter! The pocket-size Mini Ligno moisture meter is for the serious hobbyist and professional woodworker. Free catalog. Circle #2.  
**LIGNOMAT**



Request our brochure of cantilever workholding clamps. The clamps are made of a reinforced polymer, which makes them extremely lightweight, yet very strong. Clamps are available with hard or soft non-marring grip pads. Clamps are immovable, won't rust and resist most acids and chemicals. Made in the USA. Brochure \$2.00 (refunded with order). Circle #3.  
**BTM CORPORATION**



This is the one catalog you cannot afford to be without. Our 1993 tools catalog is over 220 pages thick, all color, and filled with tips and techniques. The widest variety of fine woodworking hand tools, hand power tools, books, project supplies & finishing supplies separates this from all others. A great many items are exclusive to Garrett Wade. An invaluable reference & source book. \$4.00. Circle #4.  
**GARRETT WADE COMPANY**



Ready to assemble Queen Anne furniture for dining and living room. Queen Anne table & chair legs, country kitchen table legs, table bases, turning squares. All items available for quick shipment from stock, in walnut, cherry, mahogany, and oak. Free catalogue. Circle #5.  
**ADAMS WOOD PRODUCTS, INC.**



Quick & easy new method of tracing & upscaling patterns with adhesive film imprinted with 1/4-1" grid lines. No more messy glues, expensive enlargements or pattern shifting; leaves no residue or pattern lines. Draw & Saw adheres to all woods, accepts pen, pencil or print directly on it through a copier machine. Great with scroll, jig or band saws. Saves time & eliminates extra tracing. Send \$1 for 9x12" sample & product information. Circle #6.  
**GRAPHIC ARTS SYSTEMS**



Lawn Furniture Plans Color Catalog—Plans available are picnic tables, adirondack designs, swings, glider, futons, patio lighting, rockers, planters & a wishing well with running water. All items have been built & tested several times before drawn into plan form. Curved and hard to make pieces have full-size templates. \$2.00. Circle #7.  
**SPECIALTY FURNITURE DESIGNS OF MI**



Wood Patterns—550 all new, original designs. The Enjoyable Weekend Craftsman has carefully selected over 550 of your favorite woodworking designs. These all new original designs were exclusively commissioned for us by the renowned Craftsman Michael Stewart. His illustrated easy-to-follow, step-by-step instructions include full-size plans. \$6.95 + \$2.50 s&h. Circle #8.  
**DEER CREEK PRODUCTS**



**Neat work.** Dust-Free Sanding. See an immediate improvement in your finish when dust is eliminated from the sanding process. You simply can't duplicate the same extraordinary results without dust extraction. Exceeds all dust requirements set by OSHA. Catalog features information on Random Orbit Sanders, Half Sheet Sanders, and Rotary Sanders. 20 pages. \$2.00. Circle #9.  
**FEIN POWER TOOLS**



## EBAC LUMBER DRYERS

Ebac Lumber Dryers offers a wide variety of sizes from 50 B.F. up to over 10,000 B.F. You get the highest quality dried lumber down to 6-8% moisture content. Our controllers make them easy to operate and energy efficient. Kiln Construction Guide included to build your own chamber. Free. Circle #10.  
**EBAC SYSTEMS, INC.**



The new 1993 RBindustries full-color catalog features our precision, Made in American woodworking products like the RBI Hawk Scroll Saws, 4-in-1 and 3-in-1 Woodplaners, Router Tables, accessories, and much more. See the entire line of our products from RBindustries, The American Toolmaker. FREE catalog. Circle #11.  
**RBINDUSTRIES**



Craft Supplies USA offers the finest selection of woodturning tools, machinery & accessories available anywhere. Also available are pen and pencil kits as well as many other project kits. 48-page color catalog \$2.00 (refunded with order). Circle #12.  
**CRAFT SUPPLIES USA**



Free specialty tools catalog. See tools you never knew existed in Eastwoods 164+ page full-color catalog. Includes informative product descriptions, action photos and technical articles. Learn about hand tools, welders, sand blast cabinets, buffing kits, paint & pinstripping supplies, metal working tools, books & videos, transportation collectables—lots more! 30 day money back guarantee on all Eastwood Products. Catalog Free! Circle #13. **THE EASTWOOD COMPANY**



**BUY DIRECT AND SAVE!** Your source for hard to find woodworking products. Our woodworking machines are manufactured by the SAME FACTORIES that make SEARS, DELTA and other popular brands. Scroll Saws, Planers, Lathes, Dust Collectors, Sanders and "one of a kind" products and accessories. FREE CATALOG. Circle #14.  
**PENN STATE INDUSTRIES**



Buy your sanding belts direct from the manufacturer—Industrial Abrasives is the company that gives you 12 free belts with every dozen ordered. Catalog includes many specialty items not readily available in your hardware store. Free Catalog. Circle #15.  
**INDUSTRIAL ABRASIVES CO.**

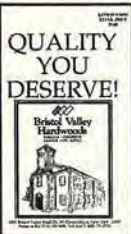


Now! Choose from circular or bandsaw models! The Sawmill goes right to the trees and turns out smooth, true-cut lumber—even beginners get excellent results. Just one man (no crew needed) can easily cut enough on weekends to save hundreds of dollars over high lumberyard prices. Send for information. Circle #16.  
**TIMBERKING, INC.**



Executive Wood Toys! Now you can create this 1929 Ford van and many others like it from our detailed and easy-to-read patterns. We offer you a complete line of patterns, parts, and wheels. Create lasting memories with our Executive Wood Toys. Catalog \$1.00. Circle #17.

TOYS AND JOYS



QUALITY YOU DESERVE!

You deserve quality hardwoods. Bristol Valley Hardwoods is the hardwood store you've been looking for. Domestic and exotic lumber, thin stock, hardwood plywood and flexible veneers,

dowels and 25 sq. ft. advantage packages. Send \$1.00. Circle #18.

BRISTOL VALLEY HARDWOODS



Discover the advantage of plate joinery using the top-rated VIRUTEX® biscuit joiner. Make fast, strong, smooth, invisible joints in all woods. Terrific for cabinet making and assembling in all wood projects. Complete catalog \$1.00. Circle #19.

PRACTICAL PRODUCTS CO.



Williams & Hussey. Thousands of professionals use our American-made molder/planners to produce straight, circular and elliptical moldings. Over 40

years of experience with a 5-year warranty. In the shop or at the job site, W&H meets your needs every day with quick knife changeovers and ultimate versatility with all kinds of wood. Free brochure. Circle #20.

WILLIAMS & HUSSEY



Convert logs into valuable lumber—Wood-Mizer® Products manufactures a line of portable bandsaw mills that allow the novice as well as the experienced sawyer to safely convert

standing logs into lumber. Then, with the use of our SolaryDry™ Kiln or VacuKiln™ to dry your lumber, you could increase the value of every board you produce. Product videos available. Send for 31-page catalog. \$2.00. Circle #21.

WOOD-MIZER PRODUCTS



Here's a complete antique picture frame restoration kit, including training manual and video, that show you how to capture big profits fixing frames. Frame-Kit is a great add-on business or part-time opportunity. Complete furniture restoration catalog: \$2. Free workshops. Circle #22.

MINUTEMAN, INC.



Home Lumber—For the largest selection of Makita at the right price. We also provide great pricing on Amana Carbides, Bostitch Air Nailers and David White Instruments. Same day shipping, free freight. We accept Visa, MasterCard, Discover, COD. Send for free information. Circle #23.

HOME LUMBER



Historic Ship Model Kits Catalog—Museum quality replicas you build yourself. Pre-cut wooden parts, metal and brass fittings, cloth sails, plans and instructions included in all kits. Send \$1.00 for 80-page catalog. Circle #24.

MODEL EXPO, INC.

Old decks look new again! Restore the natural beauty of your wood deck with Wolman® Deck Brightener. You can quickly and easily foam out ground-in dirt, mildew stain and UV damage. Another breakthrough product from The Wolman Wood Protection People. Free color brochure. Circle #25.



WOLMAN DECK CARE PRODUCTS

ROUTER BIT AND SHAPER CUTTER CATALOG—

We have one of the largest selections of fine cutting tools in stock and ready for same day shipment. All of our router bits and shaper cutters are industrial quality and affordably priced. Also includes an expanded line of woodworking tools and accessories. Free catalog. Circle #26.

CASCADE TOOLS, INC.



World's largest selection of router tables and accessories all in one catalog! Purchase these quality American made products direct from the manufacturer. Plus router bits and instructional booklets and videos. When you need to know how—Woodhaven. Free catalog. Circle #27.

WOODHAVEN



One-page brochure from NOVA TOOL CO. describes branding irons that enable you to put your name on your woodwork quickly and easily. Made especially for branding wood, they can be made with 1, 2, 3 or 4 lines of copy. Both torch heated and electric models available. \$1.00. Circle #28.

NOVA TOOL CO.

A full line catalog featuring everything from Abrasives to Z-Flex. Includes sanding belts, 9x11 sheets, discs, sanders, power tools, clamps, Delta products, glue, books, dust collecting items. Free catalog. Circle #29.

QUAKER STATE WOODWORKING SUPPLY, INC.



Over 600 easy-to-build woodworking project plans. Nation's leading source for door harp plans and parts, holstein cow projects, toy plans, country furniture, etc. Over 3000 hard-to-find specialty items. Send for your NEW 80 page catalog. Catalog \$2.00. Circle #30.

MEISEL HARDWARE SPECIALTIES



Drum Sander. An affordable alternative to hand-held belt sanding or industrial-priced wide-belt sanders. Patented features offer greater capacity at a fraction of the cost. Thin veneers and pieces as short as 2 1/4" can be sanded hands free. Prices start at \$300 to \$3495. Brochure \$1.00. Circle #31.

PERFORMAX PRODUCTS, INC.

Get to the finish line faster with the power, speed and precision of a Performax

ALPHABETS FOR WOOD SIGNS

Abc Abc Abc Abc Abc Abc The Smith's Bob's Bait Shop

Sell wood signs. Route, carve, scrollsaw signs and animals for fun and profit. \$3.00 for pattern samples. Your name set in 2 1/2" high letters included free. (This is not junk.) Circle #32.

ABC PLANS

BOULTER PLYWOOD

One Stop Wood Shop

Hardwood plywood, 30 species in stock (exotics made to order). Hardwood lumber and marine plywood all under one roof. Custom cutting services to your exact specifications with little or no waste and at competitive prices! And, we specialize in handling and shipping. Free catalog and quotations. Circle #33.

BOULTER PLYWOOD CORP.

Do-It-Yourself Kits. Grandfather, wall and mantel clocks as well as elegantly styled accent furniture pieces available in do-it-yourself kits or completely assembled and finished. Kits are made of solid 3/4" cherry, oak, and walnut. 36-page color catalog, \$1.00. Circle #34.

EMPEROR CLOCK COMPANY



TEPPER DISCOUNT TOOLS SERIOUS POWER TOOLS

Serious power tool catalog—16 pages plus a price list containing pictures, specifications and Tepper Discount Tools pricing on Black & Decker Industrial, Bosch, Porter Cable, and Milwaukee portable power tools stocked by Tepper Discount Tools. These are serious tools for the serious tool user. Cost is \$1 to cover postage and handling. Circle #35.

TEPPER DISCOUNT TOOLS



Furniture Designs, Inc.

Catalog of 200 full-size professional plans for building fine, museum-quality furniture, including cradles, roll-top desks, tables, chairs, buffets, beds, chests, gun cabinet, rocking horse, children's furniture and more. Catalog \$3.00. Circle #36.

FURNITURE DESIGNS, INC.



Exotic Imported and Domestic Hardwoods—Over 75 species of lumber, bowl blanks, turning squares and veneer. Collectors Sample Kit. 30 exotic and domestic woods. 1/2" x 3" x 6" sanded finish. Ideal for collectors, cabinet and furniture makers, designers and architects. Send for more information, \$1.00. Circle #37.

**WOODWORKERS SOURCE**

Learn about Woodturning! Dust off that old lathe! The American Association of Woodturners will inspire you to start turning wood! Membership includes: a quarterly woodturning journal filled with articles, tips, and projects; a directory of over 3,600 AAW members, local chapters, and suppliers; information about national symposiums. Membership is \$25/year. Information \$1.00. Circle #38.

**AMERICAN ASSOCIATION OF WOODTURNERS**



Catalog of furniture plans for building desks, entertainment centers, hutches, accessories, etc. Catalog features plans as well as hard-to-find hardware, molding, and brass glass. Buy just the plans or the complete hardware kit. Catalog \$1.00. Circle #39.

**DREAMWOOD**

Router owners Large Discounts. New 32-page catalog featuring hundreds of high quality carbide tipped router bits and shaper cutters, solid carbide bits, the "Router Speed Control" and "Merle Adjustable Corner Clamp" plus more. Save 50% to 70%. **VALUE, QUALITY and PROMPT SERVICE GUARANTEED.** Send for information. Circle #40.

**MLCS, LTD.**



FREE 80-page catalog of the best tools and accessories at the absolute lowest prices anywhere! Choose from Porter Cable, Bosch, Freud, Hitachi, Milwaukee, Skil, Delta plus more. We offer same day shipping, the most knowledgeable sales people and free shipping on most UPS orders in the continental U.S. Free. Circle #41.

**INTERNATIONAL TOOL CO.**

FREE 80-page catalog of the best tools and accessories at the absolute lowest prices anywhere! Choose from Porter Cable, Bosch, Freud, Hitachi, Milwaukee, Skil, Delta plus more. We offer same day shipping, the most knowledgeable sales people and free shipping on most UPS orders in the continental U.S. Free. Circle #41.



Improve Your Woodworking Skill! Craftsmen around the world have discovered the secret of better quality work. The 72-page Japan Woodworker Catalog is loaded with a huge selection of Japanese saws, waterstones, chisels, gouges, carving tools, planes, cutlery and garden tools. Send for 1993 catalog and all supplements for two years. \$1.50. Circle #42.

**THE JAPAN WOODWORKER**

Improve Your Woodworking Skill! Craftsmen around the world have discovered the secret of better quality work. The 72-page Japan Woodworker Catalog is loaded with a huge selection of Japanese saws, waterstones, chisels, gouges, carving tools, planes, cutlery and garden tools. Send for 1993 catalog and all supplements for two years. \$1.50. Circle #42.



Make whirligigs, clocks, banks, dollhouses and much more! Cherry Tree Toys has plans, parts, kits, and supplies for ALL skill levels. Catalog \$1.00. Circle #43.

**CHERRY TREE TOYS**



America's most unique carving machine. Now you can duplicate 3 dimensional patterns with extreme accuracy using Roto Carve and your table saw. Many shapes from round to square or tapered, without time consuming set-up changes. Furniture restoration or reproduction, gun stocks, decoys, lamp bases are a few of the items produced on the Roto Carve. Free brochure. Circle #44.

**ROTO CARVE**

Build your own unique and functional revolving bookcase. This 47" tall by 20" square bookcase has ten linear feet of shelf space and will compliment any decor. Plans or complete ready-to-assemble oak kit available. Send \$2 for brochure. Circle #45.

**CLASSIC FURNITURE, INC.**



Woodworking, Tools and Supplies—Hundreds of products for the woodworker demonstrated and sold at discount prices at every ★Woodworking Show★. In-depth seminars and free workshops on a variety of woodworking topics. Shows are scheduled in 30 cities. Send for free brochure. Circle #46.

**★THE WOODWORKING SHOWS★**



Buckboard bench kit includes steel springs authentically designed to give a little. Metal arms, backrails, hardware and complete instructions. \$49.00 includes shipping (Visa, MC accepted). We also sell pre-cut oak for the bench. Send for information 50¢. Circle #47.

**THE ROUDEBUSH CO.**

Tools, Tips and Techniques for today's craftsman found in the Woodworker's Emporium catalog. Features the KREG JIG® and the new wave of related accessories for use in pocket hole joinery. Find out how easy and accurate cabinet making can be. Brochure and catalog 50¢. Circle #48.

**KREG TOOL CO.**



Variable feed rate planers, drum sanders and stroke sanders from Woodmaster Tools. Free information on 12", 18" and 25" planers. . . 26" and 38" drum sanders. Facts on 30-day free trial. Free. Circle #49.

**WOODMASTER TOOLS**

Amazon's premium finishing oils. These are the finest, enviro-friendly oils available (since 1978). Golden teak oil, mahogany oil, oakwood oil, pure tung oil, Danish oil, cedar and lemon oils. Sold and used worldwide in fine furniture finishing as well as toys. All imported and refined oils formulated for all projects. Catalog \$1. Circle #50.

**AMAZON PRODUCTS**



The Lion Miter Trimmer—A cast iron, tool-steel mitering tool made in New England since before 1900. This tool will last a lifetime. Cuts any angle 45°-90°, any wood, hard or soft. Send for information. Free. Circle #51.

**FOOTATUCK CORP.**



If you enjoy wood carving or wood working, a versatile Marlin wood carving machine may be just what you need. Sign carving, three-dimensional carving of decoys, sculptures, plaques, panels and moldings as well as gun stocks and furniture pieces are easily carved on one of the three models of machines Marlin offers. **FREE BROCHURE.** Circle #52.

**MARLIN INDUSTRIES, INC.**

VAN DYKE'S RESTORERS—your source for hard-to-find items in woodworking, upholstery, antique restoration and trades. This new 272-page catalog features a large selection of solid brass hardware, chair/table/roll-top desk components, carved China cabinet glass, relief carved wood appliques and more! Catalog \$1.00. Circle #53.

**VAN DYKE'S RESTORERS**



Magnate—provides a full line of affordable carbide tipped router bits and shaper cutters. Send for FREE new 1993-94 catalog. Circle #54.

**MAGNATE**

Dry your own lumber using our equipment and your insulated chamber. Dehumidification systems from 300 BF to 45,000 BF. Easy to operate equipment offers high quality kiln-dried lumber for pennies per foot. These long-lasting made-in-the-USA units can pay for themselves in one month! Free Catalog. Circle #55.

**NYLE STANDARD DRYERS, INC.**



New 93-94 TOOL CRIB catalog is here! Since 1948, woodworkers, homebuilders, industry & schools have looked to us as their source for power tools & equipment. Low prices, knowledgeable sales people & first rate service! We stock over 10,000 name brand tools from Black & Decker, Ryobi, Makita, Porter Cable, Delta, Powermatic, Milwaukee and more. Competitive prices, quality service, same day shipping. New 208-page catalog \$3. It's worth it. Circle #56.

**TOOL CRIB**





**NEW! Craft & Woodworking Catalog.** Top-quality tools & accessories for your shop. This new catalog includes complete information & prices on HEGNER Precision Scroll Saws, blades, & accessories for other scroll saws, HEGNER Lathes & Duplicators, HEGNER Accura Precision combination machine, PLANO Vertical Glue Press, FELDER Woodworking Systems, bar clamps & more. Free. Circle #57. **ADVANCED MACHINERY IMPORTS**

Send for the new 1993 STEVE H. WALL LUMBER CO. product catalog. Sixteen page catalog containing hardwood lumber, exotics, hardwood veneer plywood, flooring and custom cabinet doors. Send \$1.00. Circle #58. **STEVE H. WALL LUMBER CO.**



Join the wonderful world of clockmaking with Klockit's new Spring 1993 catalog! 68 exciting pages of movements, dials, kits, plans and components. Every item is guaranteed: 100% satisfaction or your money back. America's leading supplier to clockmakers for over 22 years. Send for your FREE catalog today. Circle #59. **KLOCKIT**



**1993 TOOLS ON SALE**  
Tools on Sale™, a division of Seven Corners Hardware, has a wide variety of tools for the professional or do-it-yourselfer. Our catalog is packed with the most respected names in the industry: Makita, Milwaukee, Skil, B&D, Ryobi, Delta, Bosch, Porter Cable and many more. We are noted for fast friendly service. Catalog \$2.00. Circle #60. **TOOLS ON SALE™**



We stock the best available Appalachian and Exotic hardwoods, veneers and plywood. Exceptional widths and thickness in stock. Turning and carving blocks. Let us introduce you to one of the largest lumber selections anywhere. Free price list and newsletter. Circle #61. **HARTWOOD, LTD.**



**ECON-ABRASIVES'** new catalog is here! You'll find our expanded line of wood-working accessories to include: Velcro® backed discs, sanding drums, backup pads, chisels, router pads, machinery, & hundreds of other woodworking related items. Free catalog. Circle #62. **ECON-ABRASIVES**



Warren announces 4th dimension in carving tools. New Lock-Jaw Walnut Handle/Wrench concept. New Stainless Steel small blades, large blade, gouges, honed sharp. Plastic box not shown. Send \$1.00 for catalog, carving booklet with our complete line of carving tools and supplies. \$1.00. Circle #63. **WARREN TOOL CO., INC.**



Hot-off-the-press! Freud's New Sawblade Catalog is packed with technical information and new products. Our catalog features easy to follow charts, detailed information of our carbide tipped blades—for the homeowner to the contractor, our line of safety dadoes, plus a complete list of accessories. Free. Circle #64. **FREUD**



Fresh from Desert Rose! Plans for a Pueblo-style jewel box, Spanish greatchest, Pacific-Northwest blanket table. All our designs are carefully researched for authenticity or are original artworks. Beautiful, practical, easy-to-build. Send \$1 (refunded with order) for home furnishings plan brochures. Circle #65. **DESERT ROSE**



**EASY DOES IT**—with HTC's power tool accessories. Discover many unique items, designed only with you, the dedicated woodworker, in mind. Make your machinery safer, increase the working area of your shop and accomplish nearly impossible tasks easily, quickly, accurately. Full-line catalog and price list. Free. Circle #66. **HTC PRODUCTS, INC.**



End "Cam-Out" with over 300 varieties of Square Drive Screws. Included are hardened steel cabinet screws, face frame screws, trim head screws, and solid brass, silicon bronze, stainless steel and plated styles. McFeeley's also features carbide tipped router bits and saw blades, clamps, woodworking books, and more. Catalog, \$1.00. Circle #67. **MCFEELEY'S**



**1993 CATALOG**  
**FREE WOODWORKING CATALOG**—We offer a tremendous selection of fine Woodworking machinery, power tools and accessories at unbelievably low prices. Choose from a wide variety of stationary machines, Makita tools and hundreds of useful accessories including router bits, shaper cutters and more. Circle #68. **GRIZZLY IMPORTS, INC.**



Quality gold plated mechanisms for making wooden barrel pens, pencils, rollerballs, and fountain pens. Letter openers, quartz clock fit-its, hinges, etc. also available. Send for catalog. \$1.00. Circle #69. **BEREA HARDWOODS QUALITY CRAFT DIVISION**



80-page color catalog of stained glass, beveled glass, hard-to-find tools, unique patterns, kits, books, plus tips & advice. Instructional videos start at only \$10.95. For 19 years, we've supplied hobbyists and professionals with quality products. Friendly advice, and fast 24 hour shipping. Catalog \$4.50 (refundable on order). Circle #70. **DELPHI STAINED GLASS**



Great Idea! Quick and Easy! The Roll-Top Cover instantly rolls out to keep contents dry and secure. When not required, it rolls into its small 9 1/2" storage canister for carrying tall loads. The full length handle can be easily operated with one hand from either side of the truck. Send for brochure. \$1.00. Circle #72. **PACE-EDWARDS CO.**

Enlon Import Corp. Grand Opening—We would like to recognize you as our most important asset. We offer a large selection of fine woodworking machinery, tools and accessories for your business and home workshop. Take advantage of our grand opening specials. Send for free catalog. Circle #71. **ENLON IMPORT CORP.**



### Catalogs for Craftsmen ORDER FORM

Circle the catalogs you want. Fill out the coupon and include your check made out to Better Homes and Gardens®. WOOD for the cost of the catalogs you ordered plus the \$2 handling fee. **No stamps accepted. No foreign orders. Please allow 4-6 weeks for delivery.**

- |            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|
| 1. FREE    | 13. FREE   | 25. FREE   | 37. \$1.00 | 49. FREE   | 61. FREE   |
| 2. FREE    | 14. FREE   | 26. FREE   | 38. \$1.00 | 50. \$1.00 | 62. FREE   |
| 3. \$2.00  | 15. FREE   | 27. FREE   | 39. \$1.00 | 51. FREE   | 63. \$1.00 |
| 4. \$4.00  | 16. FREE   | 28. \$1.00 | 40. FREE   | 52. FREE   | 64. FREE   |
| 5. FREE    | 17. \$1.00 | 29. FREE   | 41. FREE   | 53. \$1.00 | 65. \$1.00 |
| 6. \$1.00  | 18. \$1.00 | 30. \$2.00 | 42. \$1.50 | 54. FREE   | 66. FREE   |
| 7. \$2.00  | 19. \$1.00 | 31. \$1.00 | 43. \$1.00 | 55. FREE   | 67. \$1.00 |
| 8. \$9.45  | 20. FREE   | 32. \$3.00 | 44. FREE   | 56. \$3.00 | 68. FREE   |
| 9. \$2.00  | 21. \$2.00 | 33. FREE   | 45. \$2.00 | 57. FREE   | 69. \$1.00 |
| 10. FREE   | 22. \$2.00 | 34. \$1.00 | 46. FREE   | 58. \$1.00 | 70. \$4.50 |
| 11. FREE   | 23. FREE   | 35. \$1.00 | 47. 50¢    | 59. FREE   | 71. FREE   |
| 12. \$2.00 | 24. \$1.00 | 36. \$3.00 | 48. 50¢    | 60. \$2.00 | 72. \$1.00 |

**I am enclosing:**  
\$ \_\_\_\_\_ for priced items  
\$ 2.00 for handling  
\$ \_\_\_\_\_ total remittance

**Send to:**  
Better Homes and Gardens®WOOD  
Dept. AGCS93  
P.O. Box 2713  
Boulder, CO 80329-2713

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ ZIP \_\_\_\_\_

Coupon expires August 10, 1994.



**A great finish for outdoor projects**

After installing two Honduras-mahogany entrance doors and trim on my home, I went looking for a protective outdoor finish that would allow the natural beauty of the wood to show. My search led me to the Sikkens Woodfinish System from Akzo Coatings, a Dutch manufacturer. It's just what I was searching for.

The system consists of two products: Cetol 1, a basecoat that you apply in one application, and Cetol 23 Plus, a topcoat that you apply in two coats. Used together, these products offer many advantages over other translucent outdoor finishes such as stains, oils, or spar varnishes.

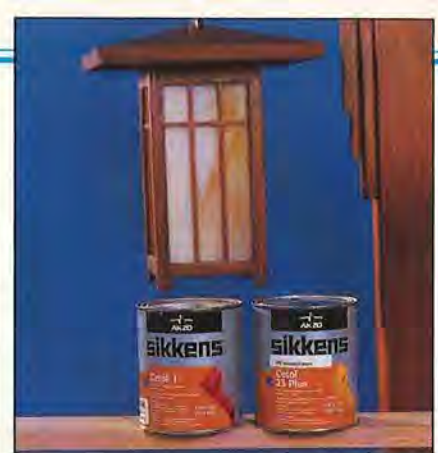
Unlike an opaque paint, translucent finishes do not have high percentages of solids for blocking ultraviolet (UV) rays contained in sunlight. These rays combine with

other outdoor elements, such as rain, to eventually break down a finish. The best you can hope for in a translucent finish is that it protects and beautifies a surface for a reasonable amount of time. And, you should be able to reapply the finish with a minimum of fuss. In these respects, the Sikkens Woodfinish System excels.

Depending on the amount of sunshine striking your project, the Sikkens finish should hold up for 2 to 5 years. When it starts to wear out, you just apply another coat of Cetol 23 Plus.

Before trying the products myself, I spoke with Brent Manley, a professional signmaker in Brainerd, Minnesota. Here's what he had to say:

"We've used just about everything, and nothing holds up better and looks better than the



Sikkens Woodfinish System. It builds up more than oils, but doesn't become brittle and flake off like a spar varnish."

*Tested by Marlen Kemmet*

*Sikkens Woodfinish System, available in nine translucent, semi-gloss tones. Retail prices: Cetol 1, \$13.50/quart, \$40.50/gallon; Cetol 23 Plus, \$15.50/quart, \$45.50/gallon. For the U.S. dealer nearest you, call Akzo Coatings at 800/833-7288. In Canada call 800/663-6273.*

*Continued on page 80*

**BIESEMEYER**  
T50 50' Commercial Fence \$294  
HS52 50' Home Shop 235  
HS40 50' Home Shop 222

**SENCO NAIL GUNS**  
not available in all areas  
LS2 Pinner 5/8" - 1" \$ 209  
SFH1 1-2" Finish Nailer 253  
SFN2 Big Finish Nailer 359  
SKS 1/4" Crown Stapler 247  
**SLP 20 Pinner \$242**  
shoots up to 1-5/8"  
**Emqlo**  
AM78HC4V 1 1/2 HP-2 tank \$299

**AEG**  
EY102 4" Plane \$79  
STS380 Jig Saw 69  
VS280 1/2 sheet sander 49

**EZ1320 Screwdriver Kit - 2 batteries \$89**

**The Kreg Jig Pockethole maker**  
for joining facerframes, butt joints, and other pocket hole applications  
K2 two hole \$99.95  
K1 one hole 89.95  
K.F. pocket model 34.95  
Face Clamp 15.95  
Replacement Drill Bit 15.95  
Square Drive Driver Bit 3" 1.95  
Square Drive Driver Bit 3" 2.95  
Self Tapping Square Drive Screws 24C  
1-1/2 or 1-1/4 100/bag 2.59

**if you can plug it in...we've got it!**

GREAT BARGAINS ON ALL YOUR FAVORITE TOOLS

**Milwaukee 0234-1 1/2" Magnum \$119**  
0222-1 3/8" Drill \$106  
0224-1 3/8" Magnum 114  
0375-1 3/8" RA Drill 127  
1379-1 1/2" RA Drill 145  
3300-1 RA Magnum 183  
5392-1 3/8" Hammer Drill 114  
6368 7 1/4" Circ.saw Kit 134  
6527 VS Super Sawzall 164  
6528 VS Super Sawzall 164  
6546-1 2 supd. Cord Sazwdrwr 78  
6583-1 HD ScrewShooter 145  
6747-1 Drywall gun 0-2500 103  
8977 Variable Heat Gun 74

**6508 2 range VS Sawzall \$132**  
**LENOX 5 pack Heavy Duty Recipro Saw Blades**  
624R 6 in. 24 th metal 9.95  
618R 6 in. 18 th metal 9.95  
610R 6 in. 10 th metal 9.95  
608R 6 in. 6 th wood 9.95  
656R 6 in. 6 th wood 11.85  
956R 9 in. 6 th wood 15.85

**Panasonic EY571B 9v Cordless Drill \$127**  
EY571BC with case \$139  
EY570B 9.6v battery 39  
**TRIGRIP**  
Clamp 'n Tool Back-to-Back Bench Clamp  
50C \$ 28.50 BB50 \$ 44.95  
36C 25.50 BB36 36.95  
24C 21.50 BB18 30.95

**HITACHI C10FA 10" Miter Saw \$269**  
CR10V Recipro Saw 115  
CJ65VA Orbital Jigsaw Kit 156  
F20A Plane 94  
M12V 3 1/4hp Plunge Rtr 223  
TR12 Plunge Router 168  
**NAIL GUNS**  
NF23A Framing Gun 398  
NT45A 18 g Finish Nailer 279  
NT65A 16 g Finish Nailer 319  
N3824A 1" Roofing Stapler 329  
**C8FB \$459 Compound Miter Saw**  
Clamp for C8FB \$18.95  
Small Piece Fence 12.95

**Makita LS1030 10" Miter Saw \$189**  
BO4510 Square Pad Sander \$ 49  
BO4530 Round Pad Sander \$ 59  
BO5000 Fland. Orbit Sander 66  
6404 3/8" VSR Drill 57

**DEWALT DW682K Biscuit Joiner \$225**  
DW100 3/8" 0-2500 Drill 84  
DW102 3/8" 0-1200 Drill 89  
DW250 0-4000 Screwgun 87  
DW254 0-2500 Screwgun 87  
DW357 7 1/4" Circular Saw 109  
**SKIL**  
2735-08 12V Cordless-2 batt 129  
5510 5 1/2" Trim Saw 109  
77 7 1/4" Wormdrive Saw 139

**PORTER-CABLE 330 Palm Sander final cost \$49.50**  
after \$10 rebate from Porter-Cable  
100 7/8 hp Router \$ 98  
315-1 7 1/4" Circular Saw 117  
330 Palm Sander 59.50  
332 NEW! R.O. SANDER 66  
333 R.O. SANDER w/bag 76  
334 R.O. SANDER w/bag 76  
351 3x21 Belt Sander 139  
352 3x21 Belt Sander w/bag 141  
360 3x24 Belt Sander w/bag 178  
361 3x24 Belt Sander 169  
362 4x24 Belt Sander w/bag 187  
363 4x24 Belt Sander 182  
505 1/2 Sheet Sander 118  
690 1-1/2 hp Router 132  
693 Plunge Router 164  
6931 Plunge Base 74  
699 Drywall Screwgun 79  
696 Router Table 122  
7310 Trim Router 87  
7336 6" F.O. Sander 134  
9118 Door Plane Kit 198  
9345 6" Sawbloss Kit 122  
97310 Trimmer kit 187  
9853S 12V Cordless-2 batt 174

**freud 94-100 5pc \$157 Router Bit Cabinet Set**  
FT2000E Vc Plunge router \$ 205  
Professional Carbide Tipped Blades  
LU85M010 10' 80T Finish 58  
LU84M011 10' 50T Combo 39  
LM72M010 10' 24T Rip 37  
LU85M015 15' 108T Finish 105

**RYOBI BT3000 10" Pro Table Saw \$544**  
NEW! 12" Planer \$ 425  
BE321 3x21 Sander 128  
BT3000W Table Saw w/sand 599  
DS1000 New! Detail Sander 52  
JP155 6" Planer 295  
JM100K Biscuit Joinder 204  
JS045 Jig Saw 85  
L123SALSK Plane 125  
R501 2hp Plunge Router 148  
RE600 3hp Plunge Router 204  
RS112 New! Random Orbit Sander 52  
SC160 Scroll Saw 138  
TFD170-2 9v Cord's Drill-2 batt. 148  
TFD220-2 12v Cord's Drill-2 batt. 164  
TS260 NEW! 10" Comp. Miter 235

**DS1000 SANDPAPER 40,60,80,100,150 Grit, Assorted 10 pieces...\$3.25**  
**HOOK & LOOP SANDPAPER**  
RYOBI 4 1/2" discs 10 count  
PORTER-CABLE 5" discs 10 count  
BOSCH 5" discs 10 count  
MAKITA 5" discs 10 count  
**All GRITS 10pc \$4.95**

**STIKON SANDPAPER 10yards GOLD 'C' weight discs**  
Grit 4 1/2" dia. pieces 6" round \$10.95  
60 1/4 100 pc 19.95 15.95  
80 10.95 100 pc 18.95 13.95  
100 9.85 100 pc 17.95 12.95  
120 9.85 100 pc 17.95 12.95  
150 9.85 100 pc 17.95 12.95  
180 9.85 100 pc 17.95 12.95  
220 9.85 100 pc 17.95 12.95  
**ROLLER STANDS**  
HPR2 \$39.95 HPR 13 \$29.95

**BOSCH**  
1194VSR 12" Hammer Drill \$ 144  
1121VSR SDS Roto Hammer 194  
1616SVS 3 hp Plunge Router 257  
1604 1 3/4 hp Router 133  
1609K 3-bess Trimmer kit 173  
3283DVS 5" R.O.Sander 85  
3051VSRK With 2 batteries 142

**1581VS \$138 VS Orbital Jigsaw**

**BLACK & DECKER**  
1166 3/8" 0-2500 Holgun \$ 62  
1167 3/8" Drill w/less Chuck 68  
1180 3/8" 0-1200 Holgun 103  
1349-09 Timberwolf Drill 279  
1703 10" Miter Saw 178  
2038 0-4000 rpm Drywall gun 99  
2664K Cyclone 9.6v Cordless 139  
2665K Cyclone 12v Cordless 159  
3338 ELU Plunge Router 253

**2720 1.5 hp Router 1/4" collet \$129**  
2721 1.5 hp Router 1/2" collet 139

**SMARTLEVEL**  
SL224 2' Level w/sensor \$ 54  
PR245 2' Pro Level w/module 87  
PR485 4' Pro Level w/module 104  
SMA Smart Module only 79  
PR24 2' Pro Rail only 19  
PR48 4' Pro Rail only 39

**STABILA**  
LEVELS - Hand holes. Two vertical vials. Two milled faces. Yellow coat.  
2464 24" \$ 36  
2469 36" \$ 39  
2467 48" \$ 45  
2501 10' POCKET LEVEL 24

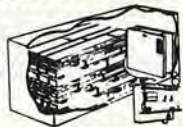
USE VISA, MC, DISCOVER  
**FREE SHIPPING** on orders over \$50,  
Within continental 48 states, HI and AK extra.  
Sales limited to stock on hand.

**ABBEY TOOLS**  
1-800-225-6321

1132 N. MAGNOLIA, ANAHEIM CA. 92801  
OPEN 8-5:30 WEEKDAYS 9-2 SATURDAY  
Calif. residents add 7.75% state sales tax  
**SERVING YOU FOR OVER 15 YEARS**  
Prices subject to change without notice



## DRY YOUR OWN LUMBER...



...With an EBAC Wood Drying System

- 3 MODELS UNDER \$3000
  - RUNNING COSTS ABOUT 3¢-5¢ PER BF
- If you thought you couldn't afford your own dry kiln — NOW YOU CAN!
- CALL TODAY 1-800-433-9011**



**EBAC LUMBER DRYERS**  
106 John Jefferson Rd., Suite 102  
Williamsburg, VA 23185

1-800-433-9011 • FAX (804) 229-3321  
in Canada: 416-985-2123 • FAX (416) 985-3708

## BRANDING IRON

For hard and soft wood



**\$2900**

Plus \$3.00 for shipping and handling

Nebr. residents add correct sales tax

SATISFACTION GUARANTEED or your money back

- Shipped in one week
- Solid brass head — raised letters
- 1st Line: HAND CRAFTED BY — as above
- 2nd Line: Your choice — 20 characters/spaces max.
- Electric unit available for \$49.00 + \$3.00

CALL TOLL FREE....

**1-800-826-7606**

Order by mail from: **NOVA TOOL CO.**  
12500 Finigan Rd., Dept. 89  
P.O. Box 29341, Lincoln, NE 68529



## ALPHABETS FOR WOOD SIGNS

**Abc Abc Abc Abc Abc Abc**  
**The Smith's Bob's Bait Shop**

TIP ON HOW TO ALIGN YOUR LETTERS STRAIGHT FOR ROUTING, CARVING OR SCROLL-SAWING.  
**SET OF 3 DIFFERENT ALPHABETS**  
additional sets available

... **FREE** ...  
**SURPRISE BONUS PACKAGE**

SEND \$15.95 plus \$4.00 shipping & handling to

**ABC PLANS**  
2002 College Street  
Cedar Falls, IA 50613

## SUPER SHOP SALE



**SAVE Up To 40%**

Build It Yourself

16x32 25x40

30x48 60x140



**800-888-4606**

## Wood Moisture Meter

pocket-size

**MINI-LIGNO**

Range: 6-20%

in 1% steps

Size: 1"x2 1/4"x5 1/2"

**\$110**  
only

Including Case, Battery, Pins for 3/16" or 7/16" measuring depth.

Also available as Mini E, 6-36%



**Lignomat USA Ltd.** P.O. Box 30145  
503-257-8957 800-227-2105 Portland, OR 97230

## FREE BROCHURE!



★**THE WOODWORKING SHOWS**★  
machinery • tools • supplies

**12 SHOWS THIS FALL!**

- Chicago
- Columbus
- Delaware Valley
- Denver
- Detroit
- No. California
- Pittsburgh
- Portland
- Seattle
- So. California
- Twin Cities
- Washington, D.C.

• plus many others!

Call for free brochure  
Monday - Friday 8 am - 5 pm Pacific Time  
1-800/826-8257 or 310/477-8521

## One-Man Sawmill Turns Timber Into Cash!



**30-DAY FREE TRIAL!**

Sawmill goes right to the trees...turns out smooth, true-cut lumber - even beginners get excellent results. Just one man (no crew needed) can easily cut enough on weekends to save hundreds of dollars over high lumberyard prices. Factory-Direct selling keeps price low...easy terms...made in USA.

PHONE TOLL FREE 1-800-942-4406 Ext. TW10  
**TIMBERKING, INC. DEPT. TW10**  
1431 N. TOPPING, KANSAS CITY, MO 64120

Our unique all wood **Fire Engine** has a sliding whistle for a "Real Siren" sound! Its Siren, Revolving Extension Ladder and simple construction from stock lumber and dowels makes it fun to build with our easy to follow plans and written instruction.



See "Worth Writing For" to order our catalog!  
For plans send check or money order for **\$9.99**

To: **LACK WOOD PRODUCTS**  
509 CYPRESS GARDENS BLVD.  
WINTER HAVEN, FL 33880

## RESTORE FURNITURE for SECURE INCOME

*Perfect 2nd Career*

Make \$200-\$2,000 a day! Unlimited market; turn-key business. Free workshops. Set-Up Shop for \$2,999-\$9,999! Part-time or full-time. Great for men, women, families.

Make Molds\*Veneer\*Resilver Strip\*Repair\*Refinish

Business Preview Video \$19.95 - Catalog \$2.00

**MINUTEMAN, INC., Ste. 17**

Box 8, Waterloo, WI 53594

**1-800-733-1776**



## Garden Bench Cypress



MC  
VISA  
ACCEPTED

Full Size Plans \$14.95  
Plans and Cypress Wood \$79.95  
Ready to Assemble Kit \$139.95

Classic Furniture, Inc  
2067 Valleydale Terrace  
Birmingham, AL 35244  
(205) 985-9620

## The Japan Woodworker's Catalog is...

loaded with the best tools you can get your hands on. In our catalog you will find a high selection of Japanese saws, waterstones, chisels, planes, carving tools, cutlery and books. Send \$1.50 for our catalog and supplements during the next two years.

**THE JAPAN WOODWORKER**  
1731 Clement E-25, Alameda, CA 94501  
Phone 1-800-537-7820

## Supplement Your Income From Your Home With A Computer!



Begin part-time and still retain the security of your present position. We offer 20 services you can perform for your community from your home. No experience necessary—easy to learn. We provide training and computer. For FREE explanation cassette and literature call:

**1-800-343-8014, ext. 184**  
Computer Business Services, Inc.

# One Stop Wood Shop

Domestic and exotic hardwood plywood and lumber, marine plywood, over 30 species in stock—all under one roof.

Custom cutting services to your exact specifications with little or no waste at competitive prices!

We specialize in bundling and shipping.

Call (617) 666-1340 today for catalog and quote.

**Boulter Plywood Corp.**  
24-WD Broadway, Somerville, MA 02145



## Scale A Pattern, Stick It Down & Cut!

Adhesive film with 1/4" grid backing makes tracing and upscaling easy. No marks or mess on cut piece. Made of durable, clear mylar to see the wood being cut. Draw with a pencil, pen or run through copier.

12" x 15" Roll  
Only \$15.95 ppd.

9" x 12" Sample Sheet  
\$1.00 (includes product info)

Dealer Inquiries Welcome

Send Check, VISA, or MC  
(with phone number and exp. date) to:

Graphic Arts Systems, Inc.  
19499 Miles Road  
Cleveland, Ohio 44128  
(216) 581-9050

## Van Dyke's

### Presents a Catalog

with supplies for upholstery, antique restoration, wood working, caning, brass hardware, carvings and many related trades!

40 Years in Creative Arts & Trades

Many Hard-To-Find Items!

SEND \$1.00 FOR CATALOG TO:

VAN DYKE'S RESTORERS

Dept. D55, P.O. Box 278, Woonsocket, SD 57385



## Quality MECHANISMS For Making WOODEN BARREL

- ✎ Pens
- ✎ Pencils
- ✎ Roller Balls
- ✎ Fountain Pens

plus other related items.

Wholesale/Retail

Call or Write:

**BereaHardWoods.com**  
6367 Eastland Rd. Brookpark, Ohio 44142  
216-234-7949 Master Card/Visa

## Full-Size Professional Plan REVOLVING BOOK TABLE



Build this unique revolving book table. Perfect for chairside use, more compact than a bookshelf, this 20 1/4" square table provides seven linear feet of shelf space. The 27 1/4" high Mission Style piece on its heavy duty swivel has a standing rotation space of 29 1/2" diameter.

Plan #719 ..... \$15.00  
(Catalog free with order)

CATALOG listing 200 full-size furniture plans — \$3.00



Fine Quality Woodworking Plans Since 1968

**FURNITURE DESIGNS, INC. Dept. BT73**

1827 Elmdale Ave., Glenview, IL 60025  
(708) 657-7526

## POCKET HOLES AREN'T JUST FOR FACE FRAMES ANYMORE



K-2 with step drill & collar \$119.95.



From cabinets to crafts and everything in between. Professionals or hobbyists. If you want to make your wood joints faster, easier and more fun, try the patented **Kreg Jig**® in your shop. **30-day no risk guarantee.** Try it, you won't be disappointed.



**The Kreg Jig**®

MADE IN THE USA

KREG TOOL COMPANY • BOX 367 • HUXLEY, IA 50124 • 800-447-8638

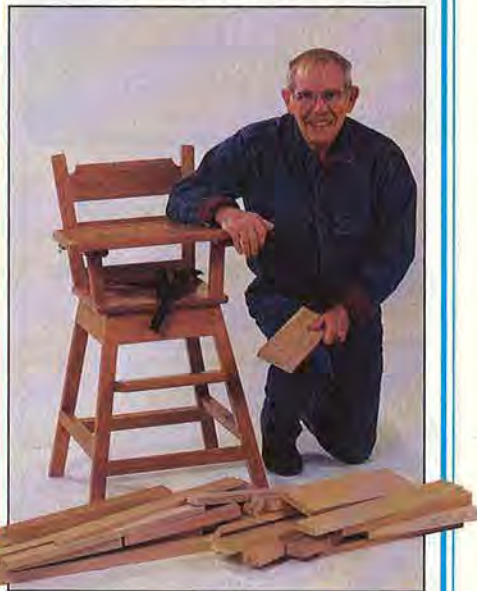
## PRODUCTS THAT PERFORM



Continued from page 78

## Project Paks save you time and hassle

I wanted to do something special for my newest granddaughter, so I decided to build the high chair in the April 1992 issue of *WOOD*® magazine. But, I wondered where I could buy the 1 1/16" cherry called for in the plan. Then, I heard about a company, Heritage Building Specialties, that would ship to my front door all of the wood needed for any project in *WOOD* magazine. I gave it a try.



These "Project Paks" contain all the wood specified in the article's Bill of Materials. The supplier planes the pieces to exact thickness, and cuts them slightly oversized. You do the final trimming.

My Project Pak was reasonably priced at \$79.95 postage paid, and all of the pieces were well color matched. Each was conveniently marked on one end with its part letter corresponding to the Bill of Materials in the article.

*Tested by Bill Hopkins, Sr.  
(an avid woodworker and  
photographer for WOOD magazine)*

Project Paks available for most *WOOD* magazine projects from Heritage Building Specialties, 205 North Cascade, Fergus Falls, MN 56537. Call 800/524-4184.

Continued on page 83

THE  
**PERFECT GIFT**  
FOR HOME WOODWORKERS!

Better Homes and Gardens®  
**WOOD**®

ONE FULL YEAR (9 ISSUES) ONLY \$24.97

To order, call TOLL-FREE 1-800-374-9663

or write WOOD Magazine, 6060 Spine Road,  
P.O. Box 55049, Dept. 4ZFN0, Boulder, CO 80322-5049

TracTop®  
**ARMRESTS**  
#1 WORLDWIDE SINCE 1980!



EXCLUSIVE  
SLIDING CUSHION  
WITH PULL-OUT TRAY  
COMFORT • LOOKS  
CONVENIENCE

Color Choices • Install Yourself • Return Guarantee  
HONDA • ACURA • BMW • AUDI  
NISSAN • SAAB • VW • VOLVO  
New! FORD Escort • GEO Storm  
Other models • Free Literature • V/MC/DISC

**HUSCO** ENGINEERING CO., INC.  
1-800-752-3181

17 CALVIN ROAD WILTON, CONNECTICUT 06897

**Flatten your  
stomach with  
NordicTrack.**



A NordicTrack® exerciser simulates  
cross-country skiing, the  
world's best  
aerobic workout.

Its total-body  
motion burns more fat  
than ordinary exercisers  
that work only your  
legs — and burns up to  
1,100 calories per hour.

Plus, it raises your  
metabolism, so you can  
burn more calories  
even at rest.

NordicTrack. It's the  
safe, enjoyable, efficient way to get rid  
of that spare tire.

30-day in-home trial  
Models priced from \$339<sup>95</sup>

**NordicTrack**  
A CML Company

Call for a FREE  
Video and Brochure

1-800-328-5888 Ext. 08BF3

or write: NordicTrack, Dept. 08BF3  
104 Peavey Road, Chaska, MN 55318

©1993 NordicTrack, Inc., A CML Company • All rights reserved.

**KNIFEMAKING**  
PROJECTS



APACHE HUNTER KIT

**21<sup>95</sup>**

+ 5.95 Shipping

PRE-SHAPED BLADES and step-by-step instructions  
make knifemaking fun and easy! Material and tool lists are  
included with each project kit. Our 68-page catalog of hard  
to find tools, polishing supplies and other unique items  
includes more than 85 PRE-SHAPED BLADES, handle  
materials, and other knifemaking supplies. Order today and  
we will include our KNIFEMAKING PROJECTS booklet  
FREE! Send \$3.00 for catalog and booklet to:

**JANTZ SUPPLY**

309 W. Main Dept. W Davis, OK 73030

1-800-351-8900

**SUPER SALE**  
Canadian Sugar Maple 5/4" Thickness

We stock the best available *Appalachian* and *Exotic*  
hardwoods, *veneers* and *plywood*.

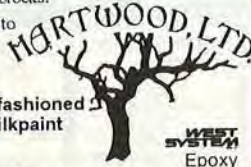
Exceptional widths and thickness in stock.

Turning and carving blocks.

Let us introduce you to  
one of the largest  
lumber selections  
anywhere.

*Bartley*  
Finishes

Old-fashioned  
Milkpaint



*WEST*  
SYSTEM  
Epoxy

Call/write for free price list & newsletter.

HARTWOOD, Ltd.

East Golden Lane, PO Box 397, New Oxford, PA 17350

Phone: (717) 624-9292

Fax: (717) 624-4365

U.P.S.

**GREAT  
IDEA!**

"This has to be the most  
attractive and practical way  
yet to cover a pickup bed."

A key locked roll-up hard  
cover that's weathertight.



for free brochure on the  
**ROLL-TOP-COVER™**

call or write: Pace-Edwards Co.  
100 Commercial Street  
Centralia, WA 98531

1-800-338-3697

**RIP AW**

**The Portable Sawmill.**

The "affordable portable"  
one man band sawmill.  
Weights only 45 lbs. Cuts  
20" diameter logs into  
lumber. Minimum 1/8" to  
maximum 9" thickness.

Write or call for free  
brochure.

Videos also available.

**Better Built  
CORPORATION**

(508) 657-5636

845 Woburn Street, Dept. W, Wilmington, MA 01887



**BINKS MACH 1 CUB HVLP  
Touch-up Gun**



Ultimate  
precision  
and operator  
comfort

Binks CUB  
Touch-up Gun is  
the newest  
addition to the  
award-winning  
MACH 1 HVLP  
Spray System.

- Exceptional comfort...weights only 10 ounces and features special lateral index finger trigger.
- Easy maneuverability...compact CUB provides superior spraying for greater spraying ease.

- Natural control...unique nozzle design produces unsurpassed atomization quality and transfer efficiency. Available in siphon, pressure, or gravity feed models. CUB meets virtually all environmental codes. Contact your Binks Representative or Binks Manufacturing Company, 9201 Belmont Avenue, Franklin Park, IL 60131-2887.

**DON'T CUT  
PLYWOOD**

**WITHOUT THE  
PLYMATE SAW GUIDE**

For cutting plywood, paneling, etc.  
For use with  
circular saw

- A MUST FOR  
CARPENTERS,  
HOMEBUILDERS,  
CABINET MAKERS,  
DO-IT-YOURSELFERS

- EXCELLEN AS A  
STRAIGHT EDGE  
FOR ROUTER

- QUICK,  
ACCURATE,  
SAFE

- SATISFACTION  
GUARANTEED

Summer  
Specials



**NEW PRICES**  
\$24.95 for 4 ft. model  
\$44.95 for 8 ft. model

*Old Prices*  
\$33.95  
\$53.95

California residents add 7.25% state sales tax  
for free literature or to place orders call  
1-800-PLYMATE (759-6283)

**OLIVE KNOT PRODUCTS**

P.O. Box 188

1409 North ST. Corning, CA 96021

# PORTER-CABLE

ROUTER BITS ARE 35% OFF OF LIST PRICES!

100	7/8 HP ROUTER	599
102	DOOR HANGING KIT	328
314	4 1/2" TRIM SAW	135
315-1	7 1/4" BUILDERS SAW	122
345	SAW BOSS 6" CIRCULAR SAW	105
330	SPEED BLOCK FIN SANDR 559 AFT. RBT.	49
332	QUIKSAND 5" RNDM ORB W/STIKIT PAD	63
333	QUIKSAND W/HOOK & LOOP, DUSTLS	73
334	QUIKSAND W/STIKIT, DUSTLESS	73
351	3" X 21" BELT SANDER	145
352	3" X 21" BELT SANDER W/DUST BAG	152
352VS	3" X 21" VS BELT SANDR W/DUST BAG	162
360	3" X 24" BELT SANDR W/DUST BAG	185
361	3" X 24" BELT SANDER	178
362	4" X 24" BELT SANDER W/DUST BAG	194
363	4" X 24" BELT SANDER	185
368-1	8 1/4" BUILDERS SAW	148
503	3" X 24" BELT SNDR W/BAG, X HVY DTY	359
504	3" X 24" BELT SNDR XTRA HEAVY DTY	349
505	1/2 SHT FIN SANDER	119
548	BAYONET SAW WORM DRIVE	192
550	NEW PECKO CUTTER	178
555	BISCUIT JOINER WITH STEEL CASE	169
617	7 1/4" BUILDERS SAW	122
690	1 1/2 HP ROUTER W/1 1/4" & 1/2" COLLETS	130
691	1 1/2 HP "D" HANDLE ROUTER	147
692	TRU-MATCH JOINING ROUTER	213
693	PLUNGE BASE ROUTER, 1 1/2 HP	169
695	SHAPER TABLE W/ 1 1/2 HP ROUTER	208
696	SHAPER TABLE	125
2620	3 1/2" VSR DRILL, 0-1200 RPM W/CHK	99
2621	3 1/2" VSR DRILL, 0-1200 RPM KEYLESS	99
2640	DRYWALL VSR DRVR, 4.5 A, 0-4000 RPM	75
5009	DEMOLT AIR TEMPLATE	78
5116	MORTISE & TENON JIG	48
5566	BISCUIT JOINER TILT FENCE	45
6615	SAME AS ABOVE BUT W/ KYLS CHUCK	120
6831	PLUNGE ROUTER BASE	73
7116	NEW 2 1/4" OMNI JIG	299
7310	LAMINATE TRIMMER, 5.6 AMP	89
7312	OFFSET TRIMMER	126
7319	TILT BASE TRIMMER	101
7335	5" RANDOM ORBIT SANDER, VS	129
7336	6" RANDOM ORBIT SANDER, VS	132
73363	RANDOM ORBIT DUST EXTRACTION	24
7349	BAYONET SAW	115
7518	3 1/4 HP FIXED BASE ROUTER-5 SPEED	264
7519	3 1/4 HP FIXED BASE ROUTER-1 SP	229
7536	2 1/2 HP FIXED BASE ROUTER	196
7537	2 1/2 HP FIXED BASE "D" HNDL RTR	208
7538	3 1/4 HP PLUNGE ROUTER-1 SPEED	229
7539	3 1/4 HP PLUNGE ROUTER-5 SPEED	264
7549	TOP HANDLE BAYONET SAW	143
7648	BARREL GRIP BAYONET SAW	143
7700	NEW 10" LASERLOC MITER SAW	338
9118	PORTA PLANE KIT W/CASE, CRBD BLD	204
9314	4 1/2" TRIM SAW KIT	152
9315	7 1/4" BUILDERS SAW KIT	139
9345	SAW BOSS 6" CIRCULAR SAW KIT	125
9367	3 1/4" PLANNER KIT	139
9548	WORM GEAR BAYONET SAW KIT	204
9617	7 1/4" BUILDERS SAW KIT	139
9637	TIGER SAW VAR SPD RECIP SAW KIT	140
9840	CRDLS DRILL KIT W/2 BAT, CS KYLS CK	156
9841	CRDLS DRILL KIT W/15 MIN CHR, KYLS	169
9847	TIGER CUB RECIP SAW KIT	115
9853	12 V, 3 1/2" CRDLS KIT, VS KEYLESS CHK	152
9853S	SAME AS ABOVE BUT W/2 BATTERIES!	178
9854	12 V, 1 1/2" CRDLS KIT, VS W/GEARED CK	162
97310	LAMNT TRIMMR KIT W/4 BASES & CS	192
97751	1 1/2" 2 SPD HAMMER DRILL KIT	145

# AEG

TXE150 6" VS DUST FREE RANDOM ORBIT SANDER W/VELCRO PAD ..... \$144

# Panasonic

EY571BCW	9.6V, 3 1/2" CORDLESS KIT, VSR W/2 BATTERIES, CHRGR & CASE	\$158
EY6205EQK	12V, 3 1/2" KYLS CHK, VSR CRDLS W/15 MIN CHR, CSE & NEW IRONMAN BATTERY	188
EY6207BC	12V, 1 1/2" KYLS CHK, VSR, CRDLS W/15 MIN CHARGE & CASE	215
EY6900BC	12V, 3 1/2" CRDLS HAMMER DRILL W/15 MIN CHARGE & CASE	199

# BOSCH

ALL BOSCH ROUTER BITS ARE 40% OFF OF LIST PRICES!

1194VSR	1 1/2" VSR, 2 STAGE HAMMER DRILL	\$144
1195VSR	3 1/2" VAR SPEED REV HAMMER DRILL	129
1581VS	TOP HANDLE JIG SAW, VS	139
1581DVS	SAME AS ABOVE BUT DUSTLESS	169
1582VSC	CLIC BARREL HANDLE JIG SAW, VS	139
1582DVS	SAME AS ABOVE BUT DUSTLESS	169
1272D	3" X 24" DUSTLESS BELT SANDER	178
1273D	4" X 24" DUSTLESS BELT SANDER	188
1347AK	4 1/2" MINI GRINDER W/CASE	105
1370DEVSK	6" VS DSTLS RNDM ORB SNDR KIT	259
1420VSR	DRYWALL DRIVER, 4.8 A, 0-4000 RPM	84
1600	2 1/4 HP "D" HANDLE ROUTER	258
1601	1 HP ROUTER	109
1602	1 1/2 HP HANDLE ROUTER	134
1603	1 1/2 HP "D" HANDLE ROUTER	142
1604	1 3/4 HP ROUTER	134
1608	LAMINATE TRIMMER	94
1608U	UNDESCRIBE TRIMMER	117
1609K	INSTALLERS KIT WITH 3 BASES	174
1609KX	DELUXE INSTALLERS KIT W/4 BASES	197
1613	1 3/4 HP PLUNGE ROUTER	163
1613EVS	2 HP VAR SP PLUNGE ROUTER	183
1614	1 HP PLUNGE ROUTER	127
1614EVS	1 1/4 HP VAR SP PLUNGE ROUTER	148
1615EVS	3 1/4 HP VAR SP PLUNGE ROUTER	254
1654	7 1/4" CIRCULAR SAW	99
3050VSRK	9.6 V, VSR CRDLS DRILL W/2 BAT, CS	134
3258	3 1/4" PLANNER	136
3282DVS	5" VS DUSTLESS RANDOM ORBIT	98
11203	1 1/2" ROTARY HAMMER W/STOP ROT.	429
11304	THE BRUTE BREAKER HAMMER	1195
11305	DEMOLITION HAMMER	638

# PORTER-CABLE



**QUIKSAND**  
RANDOM ORBIT SANDER  
MODEL 332K  
Includes 100 sheets of paper, Stikit pad, & case  
**OUR PRICE \$99.00**  
MODEL 334K - Same as above but w/dust canister & perforated paper - \$99.00

# HITACHI



**6 1/2" SLIDE COMPOUND MITER**  
MODEL C9BK  
Includes 24T & 60T carbide blades, wing & extension wing assemblies  
**OUR PRICE \$529.00**

# DELTA SPECIAL EDITION 10" 3 HP UNISAW MODEL 36-820 WITH 52" UNIFENCE SAW GUIDE \$1499


PLUS \$50 SHIPPING ANYWHERE IN THE CONTIGUOUS UNITED STATES - HURRY! EXPIRES 8/31/93

# freud



**BISCUIT JOINER**  
MODEL JS100K  
Includes biscuit joiner, case & 1000 assorted biscuits  
**OUR PRICE \$188.00 - LESS \$30 REBATE - FINAL COST \$158.00**

# PORTER-CABLE



**6" VAR. SPEED R.O. SANDER**  
MODEL 7336K  
Includes sander, carrying case and 100 sheets of paper  
**OUR PRICE \$168.00**

# senco



**MODEL SLP20 PINNER**  
WILL SHOOT A PIN 5/8" TO 1 5/8" LONG INCLUDES CASE!  
**OUR PRICE \$245.00**

# PORTER-CABLE



**1/4 SHEET FINISHING SANDER**  
MODEL 330  
**OUR PRICE \$59.00**  
AFTER \$10 REBATE \$49.00!

# senco

OT104	T-NAILER	429
SLP20	NEW PINNER, 5 1/8" - 1 5/8" CAP W/CS	245
SCN200R	ROOFING NAILER	477
SN4	FRAMING NAILER-6 TO 16 PENNY	469
SN325	FRAMING NAILER-6 TO 12 PENNY	398
SFN-2	FINISH NAILER-1" TO 2" CAPACITY	248
SFN2B	FINISH NAILER-1 1/2" TO 2 1/2" CAP	368
SKS	FINISH STAPLER-5/8" TO 1 1/2" CAP	238

# DELTA

31-080	1" BELT 6" DISC SANDER	93
31-460	4" BELT 6" DISC SANDER	129
40-560	16" SCROLL SAW, 2 SPEED	183
22-540	12" BENCH TOP PLANNER	398
28-180	BENCH TOP BAND SAW	167
33-050	NEW SIDEKICK 6 1/2" FRAME & TRIM SAW	379
37-070	NEW 6" VS BENCH JOINER	249
50-075	DUST COLLECTOR-SWEEPER, 3/4 HP	249

# HITACHI

M12V	3 HP VAR SPEED PLUNGE ROUTER	226
TR12	3 HP PLUNGE ROUTER	179
CI2FA	1 1/2" DELUXE MITER SAW	318
C8FB	8 1/2" SLIDE COMPOUND MITER SAW	477
CJ65V2	TOP HANDLE JIG SAW W/CASE	156
F30A	3 5/8" PLANNER, 8.3 AMP	178
M6V	VAR SPEED PLUNGE ROUTER, 1 1/4"	154
TR6	LAMINATE TRIMMER	92
P12R	12" PORTABLE PLANNER	799
P12RA	12" PORTABLE PLANNER 6" JOINTER	999
P20SB	3 1/4" PLANNER, 8.3 AMP	92
SV12SD	4 3/8" PALM GRIP SANDER	148
SV12SDA	4 1/2" ORBITAL SANDER W/DUST BAG	189
SV12V	4 1/2" ORBITAL W/BAG, VAR SPEED	144
SB75	3"x21", 2 SPEED BELT SANDER	136
SB81	3"x24", 2 SPEED BELT SANDER	150
SB10T	4"x24", 2 SPEED BELT SANDER	166
D10DFBE	9.6V, CRDLS DRILL KIT W/2BAT & CS-KYLS	149



# SUPER SPECIAL!

636 OSCILLATING TRIANGULAR SANDER INCLUDES CASE & PAPER ASSORTMENT **\$189**

# QUICK-GRIP BAR CLAMPS

00506	6" BAR CLAMP	14
00512	12" BAR CLAMP	17
00518	18" BAR CLAMP	16
00524	24" BAR CLAMP	19
00536	36" BAR CLAMP	23
05462	2 PC 6" BAR CLAMP GIFT PACK	23

# Jorgensen

TEM	JAW LENGTH	OPEN CAP	OUR PRICE EACH	BOX OF 6
<b>ADJUSTABLE HANDSCREWS</b>				
#0	5"	4 1/2"	11.85	68.98
#1	10"	6"	12.85	78.00
#2	12"	8 1/2"	14.85	89.90
#3	14"	10"	18.95	104.90
#4	16"	12"	24.95	143.90
<b>STYLE 37 2 1/2" THROAT 1 1/4" X 3 1/4"</b>				
3705	5"		6.20	34.50
3712	12"		6.70	37.50
3718	18"		7.20	40.50
3724	24"		8.20	43.50
3730	30"		8.10	49.50
3736	36"		10.20	55.50
<b>POW CLAMP FIXTURES</b>				
#50	3/4" BLACK PIPE CLAMPS		7.95	
		BOX OF 12 S64.90		
#52	1 1/2" BLACK PIPE CLAMPS		6.50	
		BOX OF 12 S69.50		

# freud

FREUD ROUTER BITS ARE 40% OFF OF LIST PRICES!

JS100	BISCUIT JOINER W/CASE	164
FT2000E	3 1/4 HP PLUNGE ROUTER VS	205
FRT2000	ROUTER TABLE - WOOD	169
EB100	EDGE BANDING SYSTEM	214
LM72M010	10" X 24T FLAT TOP RIP BLADE	36
LU84M010	10" X 50T ATB COMBO BLADE	42
LU85M010	10" X 60T ATB FOR MIRROR FINISH	59
LU87M010	10" X 24T RIP BLADE THIN KERF	39
LU88M010	10" X 60T CROSSCUT THIN KERF	46
LU89M010	10" X 72T TCH NON FERROUS METAL	59
LU91M008	8 1/2" X 48T FOR COMPOUND MITER	43
LU92M010	10" X 80T TCH - BEST FOR LAMINATES	59
LU98M010	10" X 80 T TCH LAMINATES OR WOOD	69
TK206	10" X 24T THIN KERF RIPPING	25
TK306	10" X 40T THIN KERF COMBINATION	25
TK906	10" X 50T THIN KERF CROSSCUT	30
TK406	10" X 24T THIN KERF FINISHING	34
WC104	4 PC WOOD CHISEL SET W/CASE	39
WC106	6 PC WOOD CHISEL SET W/CASE	48
WC110	10 PC WOOD CHISEL SET W/CASE	83
FB107	7 PC FORSTNER BIT SET W/CASE	55
FC107	7 PC CARBIDE FORSTNER BIT SET	72
SDG06	6" SAFETY DADO WITH CASE	112
SDG08	8" SAFETY DADO WITH CASE	116
91-100	13 PC ROUTER BIT SET, 1/2" SHANK	185
94-100	CABINET DOOR SET, 1 1/2" SHANK	164

# SKILL LIMITED TIME OFFER

RECEIVE A \$20 CASH REBATE ON EVERY \$200 WORTH OF SKILL MERCHANDISE PURCHASED - CALL FOR DETAILS

77	7 1/4" WORM DRIVE CIRCULAR SAW	145
1575	3 3/4" PLANNER WITH CASE	119
1605-02	BISCUIT JOINER W/CASE & 200 BISCTS	125
1812	LAMINATE TRIMMER W/CARBIDE BIT	69
1870	2 1/4 HP PLNG RTR, 12 AMP, 23,000 RPM	159
1875	2 1/4 HP EVS PLNG RTR, 10-23,000 RPM	174
2735-04	12V CRDLS VSR KYLS W/2 BAT, CASE	136
2876-02	3 3/8" CRDLS TILE CTR, 12V W/WTR BTL	159
2977-02	3 3/8" CRDLS CIRCULAR SAW KIT, 12V	144
3330	16" SCROLL SAW	135
3370	8" BELT 6" DISC SANDER	135
3380	4" DRILL PRESS	135
3400	10" TABLE SAW	179
4550-02	JIG SAW KIT, VS, 3.5 AMP W/BLOWER	96
4580-02	JIG SAW KIT, VS W/ORBITAL ACTION	106
5510	5 1/2" PROFESSIONAL CIRCULAR SAW	108
5525	6 1/2" 50° BEVEL CIRC SAW, 13 AMP	104
5557	NEW! 7 1/4" CIRCULAR SAW W/PIVT FOOT	112
5660	8 1/4" CIRCULAR SAW W/60 DEG BEVEL	138
5790	10 1/4" PROFESSIONAL CIRC SAW, 15 AMP	279
5860	8 1/4" WORM DRIVE CIRC SAW	168
7484	5" RANDOM ORBIT SANDER, 10,000 RPM	68
7575	1 1/4 SHEET PALM SANDER	49
7576	1 1/4 SHEET PALM SANDER, DUSTLESS	54
9410	4 1/2" DISC GRINDER	59
9665	7" DISC SNDR GRNDR, 15 AMP, 6000 RPM	118

# Milwaukee

0228-1	3 1/2" DRILL, VSR, 3.5 AMP, 0-1000 RPM	105
0375-1	3 1/2" CLOSE QUARTER DRILL	125
0406-1	9.6V KYLS CDLS DRILL KIT W/2BAT, CS	169
0407-1	SAME AS ABOVE BUT 12 VOLT	179
3002-1	ELECTRICIANS RIGHT ANGLE DRILL KIT	210
3102-1	PLUMBERS RIGHT ANGLE DRILL KIT	210
3107-1	1 1/2" VSR, 2 SPEED HAMMER DRILL	166
5370-1	3 1/2" VSR, 2 SPEED HAMMER DRILL	166
5389-1	6" VSR HAMMER DRILL W/CS & BITS	140
5660	1 1/2 HP ROUTER	194
5680	2 HP ROUTER	199
5825	3" X 24" BELT SANDER W/DUST BAG	247
5936	4" X 24" BELT SANDER W/DUST BAG	247
6012	1 1/4 SHEET FINISHING SANDER	124
6014	1 1/2 SHEET FINISHING SANDER	124
6016	1 1/4 SHEET FINISHING SANDER	54
6017	1 1/2 SHEET FINISHING SANDER W/BAG	55
6140	4 1/2" MINI GRINDER, 5.8-11 SPINDLE	93
6256	TOP HANDLE JIG SAW	145
6365	7 1/4" CIRCULAR SAW, 13 AMP	120
6368	6365 W/FENCE, CARBIDE BLADE & CASE	137
6490	NEW 10" MITER SAW	249
6507	VAR SPEED SAWZALL W/BLADES & CSE	143
6508	SAME AS 6507 BUT W/PERMANENT CRD	143
6511	2 SPEED SAWZALL W/BLADES & CASE	137
6527	SUPER SAWZALL W/BLADES & CASE	173
6528	SAME AS 6527 BUT W/PERMANENT CRD	171

# PRODUCTS THAT PERFORM



Continued from page 80

## One tough sandpaper

Looking for one of the toughest sandpapers around? Then you might want to try a product I recently tested called European Industrial Quality abrasive cloth—one of the most expensive sandpapers on the market. Sold by Minuteman, Inc., (a distributor of furniture-refinishing supplies), the bright-yellow abrasive comes in 5"-wide, cloth-backed rolls in coarse, medium, or fine grits.

I sanded over 400 square feet of red-oak surface with a single piece of abrasive in my ½-sheet finish sander, and the abrasive wasn't close to wearing out or loading up. Unlike paper-backed abrasives that tend to tear when used in finishing sanders, this product never ripped during my tests. So, I saved myself time because I didn't have to stop and change the abrasive.

I would like to see the product come in 4½"-wide rolls. When flush-sanding into corners, I had to cut ½" off the width of the abrasive so it wouldn't extend past the edges of my sander's pad.

Depending on how much of the abrasive you buy, the cost varies from about \$1.37 to \$1.70 per lineal foot—pretty steep compared to Taiwanese-made, cloth-backed abrasives that cost half as much. But is the cost worth it? Yes—if you do a lot of finish-sanding and would benefit from the time savings of few-and-far-between abrasive changes.

—Tested by Chuck Hedlund



*European Industrial Quality abrasive cloth, \$16.95 for a 5" x 10' roll in coarse, medium, or fine grits. Thirty-foot rolls cost \$42.49, and you save by buying 2 or more rolls. Prices do not include shipping. Minuteman, Inc., 115 N. Monroe, Waterloo, WI 53594. Call 800/733-1776.*

Continued on page 84

# WOOD PATTERNS

## 550 ORIGINAL DESIGNS FOR \$6<sup>95</sup> ONLY

You will cherish for life the joy of making these great, easy-to-do woodworking patterns. Working with your hands, and putting the finishing touches on something that's exquisite to look at, has its own just reward.

The Enjoyable Weekend Craftsman has carefully selected over 550 of your favorite woodworking designs. These all new original designs were exclusively commissioned for us by the renowned Craftsman Michael Stewart. His illustrated easy-to-follow, step-by-step instructions include full-size plans.



Similar to patterns SEEN ON TV

**1¢ PER PATTERN**  
why pay over \$100<sup>00</sup> for 100 patterns?

Do it for fun or profit!

Also makes a great gift!

- Adorable Children's Toys - Circus Toys, Mermaids, Bears, Clowns, Rockers, Play Things, Trains, Ceiling Hangers, Dinosaurs • Wall Shelves
- Welcome Signs • Yard Ornaments • Door Stops • Weather Vanes • Flower Pots • Attractive Holiday & Birthday Ideas • Charming Kitchen Paper Towel Holder, Napkin Holder, Spice Rack • Window Sill Decorations • Tool Holders • Plaques of all Kinds • Sports Patterns • Loveable Animals Great and Small • Organizers
- Tables, Chairs • TV Trays • Fun Lamps • Country Styles and More

Deer Creek Products, Inc., Dept. M324  
3038 N.W. 25th Ave., Pompano Bch., FL 33069  
30 Day Money Back Guarantee.

- The Enjoyable Weekend Craftsman - over 550 woodworking projects only \$6.95 plus \$2.50 shipping
- Two complete sets only \$11.95 plus \$3.50 shipping

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_

CUT OUT COUPON

It's Fast & Easy!

**GREAT ENCOURAGEMENT FOR SHIPWRIGHTS!**



All gentlemen shipwrights and able bodied modelists who have a mind to provide for themselves amusement and satisfaction through the traditional craft of ship modeling, an opportunity now offers to acquire, through the minimal cost of one Colonial Dollar (\$1.00), a catalog of fine and unique ship model kits, plans, books and fittings from the renowned company of Model Expo located in Mt. Pocono in the state of Pennsylvania.

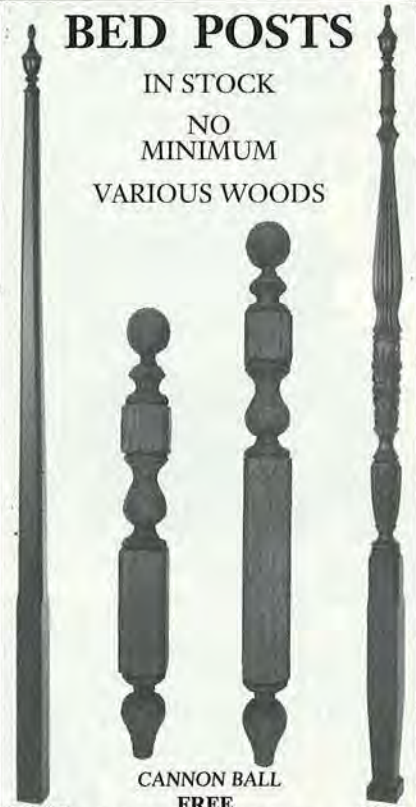
Send \$1.00 for a catalog to:

**MODEL EXPO, INC.**  
Dept. WD73, PO Box 1000, Mt. Pocono, PA 18344

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_

**BED POSTS**

IN STOCK  
NO  
MINIMUM  
VARIOUS WOODS



PENCIL      CANNON BALL      RICE

FREE  
COLOR CATALOGUE

**Adams Wood Products, Inc.**  
974 Forest Dr., Dept. M-20      PH. 615-587-2942  
Morristown, TN 37814      FAX 615-586-2188

## PRODUCTS THAT PERFORM



Continued from page 83

### A polyurethane finish that really delivers

In the *WOOD*® magazine shop, we've tried nearly every polyurethane on the market, with good and bad results. Then, we tried Minwax Fast-Drying Polyurethane and haven't used another brand since. Here's why.

In our shop we move projects right along, and slow-drying polyurethanes not only throw a wrench into our schedule, they also tend to pick up dust. But because of the Minwax product's fast-drying properties, we can apply two coats in a single day under normal conditions. (Typically, we apply two gloss coats, and a semi-gloss topcoat, in a two-day



time span. Then, we allow the finish to cure hard for three days.)

Once the product dries, we find few, if any, bubble marks. Even if the finish has loads of bubbles in it during application, they disappear before the product sets up.

—Tested by Jim Boelling

*Minwax Fast-Drying Polyurethane. We paid less than \$10 for a quart. You'll find the product widely available at hardware outlets and department stores.*

### How to get straight cuts in plywood every time

Most of us have to use a portable circular saw or router to cut large sheets of plywood down to size, or to cut a dado or groove into their surfaces. But, getting straight, accurate results with these tools can be a challenge. The Plymate Saw Guide by Olive Knot Products helps take the challenge out of these jobs.

The product consists of an extruded-aluminum straightedge mounted to a 1/4"-thick hardboard base with screws and knobs. After purchasing the product, you trim the hardboard base with your

router or saw. Now, you simply align the guide's trimmed edge with the cutoff marks on your plywood for perfect results.

On the pages of this magazine, we've shown you how to make a similar, low-cost jig out of wood (October 1991, page 46), but the Plymate tops this home-made solution in two ways. First, the aluminum straightedge won't warp. And second, by loosening the Plymate's knobs, you can adjust its straightedge in and out. You'll find this useful when changing between router bits of different diameters, or switching saw blades of different kerf thickness.

You can buy the product in 48" or 96" lengths. These work fine, but the products would be even better if they were 52" and 100" long, respectively. That way, 2" of the guide would extend past both edges of either a 4' or 8' sheet of plywood, making it easier for you to enter and exit a cut.

—Tested by Bob McFarlin



*Plymate Saw Guide, \$33.95 for 4' model, and \$53.95 for 8' model. Call for shipping charges. Olive Knot Products, P.O. Box 188, 1409 North St., Corning, CA 96021. Call 800/759-6283.*

## High Tech Engraving



See what everyone has been talking about  
Engrave on: Wood, Glass, Metal, Stone, Ceramics, Eggshell

- Precise Detail
- No Vibration
- 400,000 RPM
- No heat buildup
- You don't have to be an artist when you use our exclusive stenciling system.

1-800-755-0261 or 414-251-0981

SCM Enterprise • W16N11318 Western Avenue, Germantown, WI 53022

## INTERESTED IN WOODTURNING?

Join the American Association of Woodturners!

- Quarterly Journal-American Woodturner
- National Symposiums
- 55 Local chapters

call or write:

AAW - Dept. W  
667 Harriet Ave.  
Shoreview, MN 55126  
612/484-9094



## MAGNATE

WB-15 Woodboxed 15pc Carbide Tipped Router Bit Set



1/4" and 1/2" shank available, sand blasted  
**TOLL FREE 1-800-827-2316**  
**MAGNATE BUSINESS INTL.**  
1930 S. Brea Canyon Rd. #170, Diamond Bar, CA 91765  
909-861-1185 Fax 800-733-9076  
Ask for Free 1993/94 Edition Catalog

## SHAKER PEGS CANDLE CUPS MUG PEGS

\$17.95 per 100, prepaid.  
Wide selection of other wood products.

Catalog \$1.00 or free with order.

### Benny's Woodworks

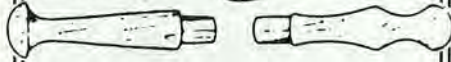
P.O. Box 840, Dept. WD73  
Shelbyville, TN 37160

1-615-437-2295 • 1-800-255-1335

Shaker Peg



Mug Peg



## MIRRORA®

THE HAND MIRROR COMPLIMENT

PERFECTLY BEVELED MIRROR

## FLORAL

Glass & Mirror, Inc.

895 Motor Parkway, Hauppauge, NY 11788  
516-244-0200 • 800-647-7672



580 Lancaster Avenue • Box 296  
Malvern, Pennsylvania 19355  
Office (215) 640-1450  
Fax (215) 644-0560

## FREE SPECIALTY TOOLS CATALOG

See tools you never knew existed in Eastwoods 164+ page full color catalog. Includes informative product descriptions, action photos and technical articles. Learn about hand tools, welders, sand blast cabinets, buffing kits, paint & pinstripping supplies, metal working tools, books & videos, transportation collectables — lots more! 30 Day Money-Back Guarantee on All Eastwood Products. **CATALOG FREE!**



## Industrial

### DRILLS

- 1166 3/8" 0-2500rpm Holgun \$62**
- 1167 3/8" VSR Holgun w/Keyless chuck \$68
  - 1180 3/8" 0-1200rpm Holgun 103
  - 1311 1/2" 0-600rpm Holgun 123
  - 1312 1/2" 0-900rpm Holgun 123
  - 1349-09 2 speed Timberwolf Kit 279
  - 1350-09 2 speed Timberwolf Drill 264

### SAWS

- 2694 7-1/4" Super Saw Cat w/brake 145
- 3158K VS Orbital Jig Saw Kit 134
- 3105 Dual range VS CutSaw Kit 134
- 1703-1 10" Miter Saw w/carbide blade 178
- 3660 12" Miter Saw 309

**3680 12" Compound Miter Saw \$349**

### SCRUGUNS

- 2037 0-4000rpm VSR drywall 99
- 2038 0-2500rpm VSR drywall 99
- 2057 0-2500rpm Power unit 109
- 2059 0-2500rpm Tek® gun 117

**2660 \$79 0-4000rpm Drywall Scrugun®**

### IMPACTS

- 2670 w/pin 1/2" Impact \$139**
- 2674 w/ring 3/4" Impact Wrench \$399**

### ROUTERS

- 2720 1.5 hp Router 1/4" collet \$129**
- 3265 Laminate Trimmer \$145

### GRINDERS

- 2750 4-1/2" 10,000rpm Grinder \$79**
- 4252 5" 10,000rpm Grinder 108
  - 4074 7" 6000rpm Grinder 119
  - 4075 7/9" 5000rpm Wildcat™ 139
  - 4076 7" 6000rpm Wildcat™ 139

### CORDLESS DRILLS

- 1921K 9.6V 1850rpm Cordless Kit \$159
- 98003 9.6V battery for 1921 45
- 2661K 13.2V 3/8" KODIAK® Kit 249
- 98051 13.2V Univolt™ battery 45
- 2663K 9.6V 2 spd VSR Kit 137

**2664K 9.6V Cyclone™ Drill Kit \$146**

- 2764K w/Keyless chuck 157
- 98048 9.6V Univolt™ battery 32
- 2665K 12V Cyclone™ Drill Kit 159
- 2765K w/Keyless chuck 169
- 98050 12V Univolt™ battery 39

- 98014 Univolt™ universal charger hour for 9.6, 12, 13.2V batteries 49
- 98018 15 min. Univolt™ charger charges any battery in 15 min. 182

## Elu

**3338 2-1/4 Hp Plunge Router \$253**

- 3328 3-1/2 Hp Router (1/2" collet) \$269
- 3380 Biscuit Joiner/Spliner Kit 259
- 3379K Biscuit Joiner Kit 229
- 2717 7/9" 2 speed Polisher 167



**2721 1-1/2 hp Router (1/2" collet) \$139**

- 40902 1/4" Collet \$25

### ACCESSORIES

- 14765 25pc Bullet Drill bit set \$55
- 17127 7 pc Brad Point Drill bit set 15



- Piranha**
- 63-717 7-1/4" x 18 tooth Rip \$5.95
  - 63-737 7-1/4" x 24 tooth Combo 7.95
  - 63-757 7-1/4" x 40 tooth Finish 12.95
  - 73-759 8-1/4" x 40 tooth Finish 19.95
  - 73-770 10" x 60 tooth Finish 29.95

### NEW ULTRA™ PIRANHA

- 73-970 10" x 60 tooth Finish 52.95
- 73-976 12" x 60 tooth Finish 59.95
- 73-984 15" x 80 tooth Finish 89.95

## DEWALT

High Performance Industrial Tools

**DW682K Biscuit Joiner \$225**

- DW100 3/8" 0-2500 rpm Drill \$64
- DW102 3/8" 0-1200 rpm Drill 89
- DW130 1/2" 600 rpm Spade Handle Drill 138
- DW250 0-4000 Screwgun 87

**DW254 0-2500 Screwgun \$87**

- DW290 1/2" Impact Wrench 149
- DW304K dual range VS Recip Saw 129
- DW306K multirange VS Recip Saw 146
- DW318K VS Orbital Jig Saw Kit 134

**DW357 7 1/4" Circular Saw \$109**

- DW402 4-1/2" Mini Grinder 79
- DW411 1/4 sheet Finish Sander 52
- DW870 14" Chop Saw 189
- DW944K 9.6V Cordless Drill Kit 148
- DW945K 12V Cordless Drill Kit 165
- DW946K 12V Cordless Hammer Drill 179
- DW947K 13.2V Cordless Drill Kit 208

**DW610 1-1/2 HP Router (1/4 & 1/2" Collets) \$145**

- 73-970 10" x 60 tooth Finish 52.95
- 73-976 12" x 60 tooth Finish 59.95
- 73-984 15" x 80 tooth Finish 89.95

USE VISA, MC, DISCOVER

**FREE SHIPPING** on orders over \$50,  
Within continental 48 states, HI and AK extra.  
Sales limited to stock on hand.  
Be sure to see our other add in this issue

# ABBEY TOOLS

1-800-225-6321

1132 N. MAGNOLIA, ANAHEIM CA. 92801  
OPEN 8-5:30 WEEKDAYS 9-2 SATURDAY  
Calif. residents add 7.75% state sales tax  
**SERVING YOU FOR OVER 15 YEARS**  
Prices subject to change without notice  
Be sure to see our other add in this issue.



# SUMMER CLEARANCE

## • SHOWCASE •



**RED HOT  
SAVINGS!**

Choose from these 16 **HOT** offers.  
Order direct from our advertisers.

**BIG SAVINGS ON DISCONTINUED Dining Room Kits.** Ready to assemble and finish dining tables, side boards, and hutches. First come — first serve until gone. Will not be made again. Mahogany, Walnut. Up to 40% savings from factory price. ADAMS WOOD PRODUCTS, INC., 974 Forest Dr., Morristown, TN 37814. 615-587-2942.

**AMAZON'S AMAZING FINISHING OIL.** 16-oz. bottles — \$9.95. Second bottle less 25%. Great for all your projects. Offer ends November 15, 1993. AMAZON PRODUCTS. Call 1-800-832-5645.

**SPECIAL OFFER**—Mechanisms for wood barrel pens, pencils, roller ball pens. Gold plated now available. GREAT PRICES. Call or write: BEREA HARDWOODS CO., 6367 Eastland Rd., Brook Park, OH 44142. 216-234-7949.

**WE ARE OVERSTOCKED.** Short packs, 50 lbs clear 1-face hardwood, 4" to 10" wide, 10" to 30" long. Price includes shipping to most places in Eastern time zone. Red oak was \$54 now \$46, cherry was \$56 now \$48. You must mention or send this ad with your order to receive discounts. Offer good through August 31, 1993. BRISTOL VALLEY HARDWOODS, 4300 Bristol Valley Rd. (Rt. 64), Canandaigua, NY 14424. 716-229-5695.

**PLANS AND KITS AVAILABLE** for classic garden furniture, also Cypress Wood #1 and Better 8/4 and 4/4, S2S, \$2.25/board foot plus shipping. CLASSIC FURNITURE, INC. 205-985-9620.

**LEADED GLASS TOOL KIT** includes all the tools and supplies you need to turn ordinary glass into beautiful leaded glass panels to compliment your wood cabinets. Item #6910 . . . \$130 ppd. Color catalog also available. DELPHI STAINED GLASS. 1-800-248-2048.

**FREE** assembly instructions with your purchase of Pen, Pencil, Rollerball or Fountain Pen Kits. Best prices and services anywhere. 52-page color catalog of woodturning supplies available upon request. CRAFT SUPPLIES USA, 1287 E. 1120 S., Provo, UT 84604. 801-373-0919.

**FRESH FROM DESERT ROSE!** Plans for a Pueblo-style jewel box, Spanish greatchest, Pacific-Northwest blanket table. All our designs are carefully researched for authenticity or are original artworks. Beautiful, practical, easy-to-build. Send \$1 (refunded with order) for home furnishings plan brochures. DESERT ROSE HOME FURNISHINGS, PO Box 776, Denver, CO 80201.

**DRAW & SAW**—Your quick and easy solution to trace and upscale woodworking patterns. Special 8 ft. size roll only \$9.95. Send order to GRAPHIC ARTS SYSTEMS, 19499 Miles Rd., Cleveland, OH 44128. 216-581-9050.

**HARTWOOD, LTD.** offers 50% off all in stock veneers. This inventory includes veneers in Bubinga, Padauk, Ebony, East Indian Rosewood, Satinwood, Birdseye, and Curly Maple. These veneers are plane sliced and are terrific for gluing up matched panels. H.A.R.T CENTER, PO Box 397, E. Golden Ln., New Oxford, PA 17350. 717-624-4323 • 334-9301.

**PORTER CABLE QUICKSAND 5"** Dustless Random Orbit Sander Kit features a powerful 1.7 amp. motor delivering 12,000 OPM for a superior finish every time. Weighs a mere 3.2 pounds. Includes the Sandtrap Dust Collection System and PSA pad. Kit includes a steel case and 100 sheets of Stickit Paper in your choice of grits, from 100 to 320! Summer Clearance Price \$99. Contact INTERNATIONAL TOOL CORPORATION, 1939 Tyler Street, Hollywood, FL 33020. 1-800-338-3384.

**BUILD CABINETS THAT RIVAL THE PROFESSIONAL** without a "dream shop." Our video, "Cabinetmaking Made Easy with Marc Sommerfeld" will show you how; only \$14.95 (plus S&H). "One of the best in its field," says DIY Magazine. KREG TOOL CO. 1-800-447-8638.

**THE MIRRORA COLLECTION**—beveled mirrors available in a wide variety of sizes and shapes, including squares, circles, octagons and ovals. A perfect touch for furniture, frames or hand-held mirrors. Call 800-MIRRORA.

**PLYMATE SAW GUIDE**—saves you time and money when you use it with your circular saw for cutting plywood. Eliminates using a table saw for cutting 4x8 sheets. Comes in 4' model—\$24.95 and 8'—\$44.95 plus shipping and handling. Contact OLIVE KNOT PRODUCTS, Dept. WM, PO Box 188, Corning, CA 96021. Or call 1-800-PLYMATE (759-6283).

**FEIN "TRIANGLE" SANDER—ONLY \$199.95.** Unique power tool eliminates bloody knuckle hand sanding. Triangle pad sands into corners and along edges without bouncing or running away. Saves hours of your time. TREND-LINES. Call 1-800-767-9999.

**TOP COMMERCIAL GRADE BITS**—overstock on selected 1/4" shank sizes — 1/4" round over for \$13.00, 3/8" round over for \$14.50 and 1/4" radiused cove and bead combination for \$20.00. **FOOT SWITCHES** — Heavy Duty 15 AMP — Made in USA. Ideal for controlling power to your router and other shop tools. Reg. \$49.99 for \$39.99. Order now! Supplies are limited. 1-800-344-6657 or write WOODHAVEN, 5323 W. Kimberly Rd., Davenport, IA 52806.



# SUBSCRIBERS PLEASE NOTE

**Wood®** subscribers often express interest in products and services which are supplied by our company, Meredith Corporation, and by other reputable firms.

Accordingly, we sometimes send our subscribers offers for books, other magazines or home related products and services of potential interest.

We also make subscriber names and addresses available to other firms who are able to supply appropriate products and services. We screen all such offers and take great care to see that information about these products and services is sent only to subscribers who, according to our records, are most likely to be interested.

While we believe the distribution of this information is of benefit to our subscribers, we firmly respect the wishes of any subscriber who does not want to receive it. Should you wish to restrict this, simply send your request to:

WOOD®  
P.O. Box 10263  
Des Moines, IA 50336-0263

Please enclose a current address mailing label. Please be specific as to whether it is still all right to receive Meredith Corporation offers or whether you want to stop all offers from any company including Meredith. We will gladly honor your request.

## Classic Heirloom Cradle

You can easily build this classic cradle which will become a cherished family heirloom to pass from generation to generation. Two sizes available... Baby or Doll.



Full Size Plans

Baby size Plan (21 x 35) \$14.95 ppd.  
Doll size Plan (10 x 18) \$8.95 ppd.

Spindles available in Oak or Maple. See our catalog which is sent free with your order.

**M/C VISA orders call toll-free 1-800-292-8296**  
ARMOR Box 445 A, East Northport, NY 11731

## YOU DESERVE QUALITY HARDWOODS

Order an advantage pack today!

25 Board ft., 30"-60" long, 4"-10" wide, surfaced 2 sides to 13/16", clear one face

Cherry \$76 Poplar \$49  
Red Oak \$74 Hard Maple \$63

Thin Stock Packs Also Available

We pay UPS shipping to most destinations in the Eastern time zone, other areas slightly higher. Discover, Visa/MC Accepted. Free catalog w/ order.

**Bristol Valley Hardwoods**  
4300 Rt 64, Canandaigua, NY 14424  
1 (800) 724-0132 (ext. 11)

## WOOD TOY

- ★ Patterns
- ★ Parts
- ★ Wheels
- ★ Many New Patterns to Choose from.
- ★ Executive toys

SEND \$1.00 FOR NEW CATALOG & RECEIVE COUPON FOR FREE WHEELS & AXLE PEGS.



## toys and joys

Box 628W Lynden, Wash. 98264



## FUTON SOFA-BED FRAMES TWIN - FULL - QUEEN

Start a profitable business at home, or build your own! Send for Ed Miera's 8 1/2" x 11" Plan Book covering eight exclusive Southwest/Classic designs and detailed step-by-step instructions, straight from the shoproom floor.

For \$19.95 you receive plans, resources, and instructions. Add \$2 for shipping and handling.



Send check or money order to:  
**DESERT ROSE**  
Home Furnishings  
P.O. BOX 776  
DENVER, CO 80201  
Colo. residents add 8 1/4% tax

## THE GIZMO FACTORY

### OAK & MARBLE COFFEE TABLE PLANS

- Combine the beauty of wood and stone!
- It's easy!
- Complete plans, instructions and helpful tips
- Table measures: 50 1/2" L X 22 1/2" W X 16" H



- Send check or money order for \$10.00 (8.50 + 1.50 S&H)
  - Washington residents add 8.2% sales tax
  - When ordering please specify: Plan #09
  - Ask for information on all the custom Gizmo Factory plans!
- PO Box 70162 Seattle, WA 98107 1-800-560-3347**

## THE DELTA SPECIAL EDITION UNISAW® 10" TILTING ARBOR SAW WITH UNIFENCE® SAW GUIDE

### DELTA

- Heavy duty 3 HP, 230 V 1 ph. motor • Magnetic motor starter • 52" cap.
- Unifence saw guide for precision accurate cutting
- Triple V-belt drive • Built in adjustable 90° and 45° blade stops • T-slot table #36-820
- Auto-set™ miter gage • See-through swing type splitter-mounted blade guard • Up-front controls • Full cabinet with hinged motor cover • Equipment mounting hooks for miter gage and wrench storage • Solid undertable construction with massive trunnions and husky carriage • Lubricated-for-life ball bearings. List \$2099.00 #36-820 shown with accessory #34-998 table and shelf boards.



\$1499.

P.O. Box 1716 Grand Forks, ND 58206

Free Freight in 48 OF THE NORTH  
Contiguous States **1-800-358-3096**  
Same day shipping

## AMAZON PRODUCTS Since 1978

Formulated for easy application - and durability. Ideal for all your wood projects: Cabinets, Desks, Chairs, Shelves, Toys, etc.

**NON-TOXIC  
NON-COMBUSTIBLE**

Full Quart \$14.95  
Full Pint \$8.95  
Add \$3.95 S/H

## AMAZON

P.O. Box 530156, Dept. WM  
Miami Shores, FL 33153

VISA/MC **1-800-832-5645**  
1993 Catalog \$1.00 - Free with Order



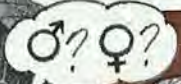
## WOOD® CUMULATIVE INDEX Issue 1 through 60

To order the new **WOOD®** Cumulative Index, send your name, day time phone number, and address plus \$6.95 (U.S.) (\$4.95 plus \$2.00 shipping) to:

## WOOD® CUMULATIVE INDEX 1-60

P.O. Box 9255  
Dept. WCI-60  
Des Moines, IA 50306

## AVOCADO THE TREE WITH SPLIT PERSONALITIES



Avocado trees have many of the characteristics found in softwoods and hardwoods, and both botanical sexes as well!

Who hasn't attempted to sprout an avocado seed and nurture it to maturity? Unless you happen to live in a region of consistent tropical warmth—or you have a green thumb—it's doubtful that your would-be tree ever reached its mature size of 20–30'. If it did, you would have witnessed fascinating dichotomies.

To begin with, the avocado botanically classifies as a fruit, although we think of it as a vegetable. And, while most plants produce flowers that are either male, female, or both at once, the avocado's blooms begin as male in the morning, and then turn female in the afternoon!

If its dual gender doesn't present enough confusion, botanists also classify the avocado (*Persea americana*) as deciduous and evergreen. That's because the avocado sheds its leaves once a year

like a hardwood—but not until the season's new crop of leaves emerge. Therefore, like a conifer, the tree appears always green.

A cousin to the camphor tree (providing both cinnamon and camphor), as well as the sassafras, bay laurel, and nutmeg, the avocado bears fruit at various intervals, thereby producing a continual supply. In fact, a healthy, adult avocado tree may produce up to 500 fruits annually during its 50-year lifetime. But when a tree ceases to bear fruit, its rather ugly, grayish-brown wood normally does not begin another useful life as woodworking stock. True, avocado was once tested and found to be an excellent replacement for spruce in guitar and violin sounding boards, but the supply was irregular and limited. So now only local carvers benefit from the easily worked wood. 🌳

Illustration: Jim Stevenson

### NEW! DRUM SANDER with Infinitely Variable Power Feed!



At last! A complete power-feed Drum Sander at an affordable price! Choose from 26" and 38" models.

FREE 30-DAY TRIAL!

Now you can save hours of tedious hand scraping and sanding. In a matter of seconds, you can turn out satin-smooth panels, doors, shelves and other glued-up pieces. No more dips and waves. No more gouging. Infinitely variable power feed gives you total control. Turns out perfectly flat, glass-smooth panels that look better and take stain more evenly than any you could do by hand.

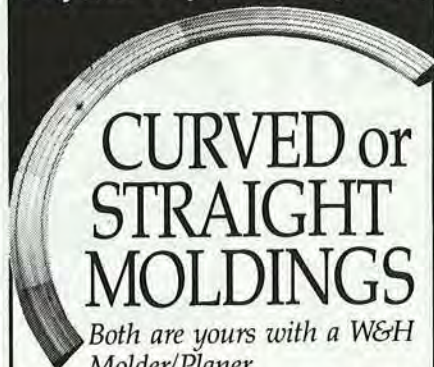
Send for complete facts. See how the Woodmaster can finish cabinet pieces, resawn stock, paneling, tabletops, knees, burls and much more! Made in U.S.A. Easy terms.

Call Toll-Free 1(800) 821-6651 Ext. RW50  
 YES! Please rush my FREE INFORMATION KIT and details on your 30-Day Free Trial Guarantee.

Woodmaster Tools, Inc. Dept. RW50  
1431 N. Topping, Kansas City, MO 64120

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_  
STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
PHONE ( ) \_\_\_\_\_

### Anytime Anywhere Anywood



## CURVED or STRAIGHT MOLDINGS

Both are yours with a W&H Molder/Planer

Thousands of professionals and serious woodworkers use our American-made cast iron molder/planers to produce smooth moldings, raised panels, crowns and curved molding.

In the shop or at the job site, W&H meets your needs every day with quick knife changeover and ultimate versatility with all kinds of wood.

Over 40 years of experience supports our products with a 5 year warranty! Call or write today for our FREE information kit!  
800-258-1380 (USA) 603-654-6828  
FAX 603-654-5446

Williams & Hussey Machine Co., Inc.  
Dept. 233HM  
P.O. Box 1149 Wilton, NH 03086



50% OFF!



Solid Cherry!

### KIT SALE – 50% OFF!

Includes All Parts, Even Quartz Movement!

America's finest clock kits. Pre-cut, shaped and ready for you to assemble and finish! Complete kit includes cherry case parts, quartz movement, ivory metal dial, convex glass and brass finish dial ring. Finished value over \$50! 6-1/4"H x 5"W x 2-1/8"D.

Order #170111 (Reg. \$19.90)

SALE ONLY \$9.95 (Sale Ends 10-31-93)

For UPS shipping & handling, add \$3.75  
Wisc. residents, add 5.5% sales tax.

FREE CLOCK KIT CATALOG INCLUDED  
Call or Write Today! 1-800-236-7300

The American Clockmaker  
Dept. WD07 Box 326 Clintonville, WI 54929

# Serious Power Tools™

WE PAY ALL SHIPPING CHARGES ON TOOL AND ACCESSORY ORDERS OVER \$50.00 SHIPPED WITHIN THE CONTIGUOUS U.S.A. !!!

 <p>All BOSCH Router Bits Are 40% Off The Manufacturer's Suggested Retail Price.</p>	 <p><b>BOSCH</b> 2 Horsepower Plunge Router Model 1613EV5 Mfg. Sug. Price: \$330.00 TDT Price: \$189.00</p>
 <p><b>PORTER CABLE</b> Speed-Bloc Finishing Sander Model 330 Mfg. Sug. Price: \$105.00 TDT Price: \$58.00</p>	 <p><b>BOSCH</b> 3 1/4 Horsepower Plunge Router Model 1613EV5 Mfg. Sug. Price: \$460.00 TDT Price: \$257.00</p>
 <p><b>PORTER CABLE</b> 3" x 21" Dustless Sander Model 352 Mfg. Sug. Price: \$280.00 TDT Price: \$144.00</p>	 <p><b>BLACK &amp; DECKER</b> 7 1/4" Sawcat Circular Saw Model 2084 Mfg. Sug. Price: \$254.00 TDT Price: \$129.00 <i>with free case while supplies last</i></p>
 <p><b>BLACK &amp; DECKER</b> Variable Speed Jigsaw Kit Model 3159K Mfg. Sug. Price: \$258.00 TDT Price: \$133.00</p>	 <p><b>BLACK &amp; DECKER</b> ELU Plate Joiner Kit Model 3379K Mfg. Sug. Price: \$408.00 TDT Price: \$239.00</p>

-If you are not satisfied with your purchase, return it prepaid within 30 days for a full refund.  
-No C.O.D. shipments.  
-We accept:



-We reserve the right to correct printing errors.  
-Prices subject to change without notice.  
-Some quantities are limited.  
-These are mail order prices.  
-Illinois residents add 7.25% sales tax.  
- \$15.00 charge for air shipping.

## TEPPER DISCOUNT TOOLS

MAIL ORDER DIVISION  
107 W. SPRINGFIELD, CHAMPAIGN, IL 61820  
FAX (217) 356-1975

ORDER LINE: 1-800-626-0566

Specializing in Black & Decker industrial, Milwaukee, Bosch, and Porter Cable power tools. Call the order line to receive a copy of our complete catalog.

W593

# Econ-Abrasives

WE MAKE ABRASIVE BELTS ANY SIZE, ANY GRIT!

## Standard Abrasive Sheets

### CABINET PAPER

	50/pk	100/pk
60D	\$15.00	\$27.00C
80D	14.00	25.00C
100 thru 150C	13.00	23.00C

### FINISHING PAPER

80A	\$ 10.00	\$17.00C
100 thru 280A	9.00	15.00C

### NO LOAD PAPER(white)

100 thru 400A	\$11.00	\$19.00C
---------------	---------	----------

"C" = 100 SHEETS

### Velcro® Vacuum Discs

8 Hole pattern for Bosch sanders

Dia.	Grit	Price
5"	60	\$.48ea
5"	80	.46
5"	100 thru 320	.45

### \* OTHER PRODUCTS\*

\*Wide Belts\*Rolls\*Flap Wheels  
\*Pump Sleeves\*PSA Discs  
\*Router & Wood Bits\*Wood Glue

## ABRASIVE BELTS

PLEASE SPECIFY GRITS

1X30	\$.73 ea	3X24	\$.84ea
1X42	.73 ea	3X27	.87ea
1X44	.73 ea	4X21 3/4	.96ea
2 1/2X16	.77 ea	4X24	.99ea
3X18	.78 ea	4X36	1.20ea
3X21	.81 ea	6X48	3.14ea
3X23 3/4	.84 ea	2 1/4X80	2.94ea

### OTHER SIZES ON REQUEST

### HEAVY DUTY SPRING CLAMPS

Clamps come w/PVC tips and grips.

Size	Price
4"	\$1.75 ea
6"	2.25
8"	3.50

### JUMBO ROUTER PAD(24" x 36")

It will not allow small blocks of wood to slip out under router or sanding applications. ROUTER PAD

ONLY \$8.95ea.

JUMBO BELT CLEANING STICK  
ONLY \$8.80

## Econ-Abrasives

P. O. Box B865021

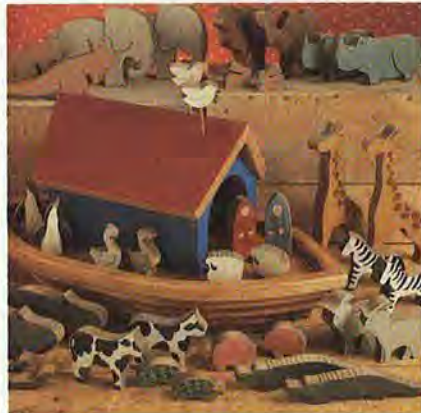
Plano, TX 75086

(214)377-9779



TOLL-FREE ORDERING LINE (800) 367-4101

# BUILD THIS 39-PIECE ARK



Build this wonderful 39-piece heirloom-quality ark (including its animals, Noah and his wife) with ease and confidence. Order the complete Better Homes and Gardens® Decorative Woodcrafts™ pattern for only \$9.95 and you'll receive:

- ❖ A full-color photograph
- ❖ Expert hints and tips
- ❖ Detailed instructions
- ❖ A supplies list
- ❖ Full-sized color patterns
- ❖ A bill of materials and an exploded-view drawing
- ❖ A source for the unpainted cutouts

Our designers and editor have reviewed each element to guarantee your crafting enjoyment.

## HOW TO ORDER:

Order your Noah's Ark project today by sending your name and address, plus \$9.95 ppd.(U.S.) check or money order, to:

**Decorative Woodcrafts™**  
**Pattern Sales**  
**P.O. Box 9212-D831**  
**Clinton, IA 52736**

100% MONEY-BACK GUARANTEE if not completely satisfied.

If applicable, state and local taxes are included.

# AMERICA'S MOST WANTED PORCUPINE



For almost 50 years, "Nixie®" has told the story of Nixalite's Stainless Steel Needle Strips and how it keeps birds, bats, and climbing pests from invading homes, garages, attics, eaves and crawlspaces.

Nixalite of America Inc offers many environmentally safe pest control products.

For complete info . . . call Nixalite



**Nixalite® of America Inc**

1025 16th Ave - P.O. Box 727

East Moline, IL 61244-0727

Ph 800/624-1189 Fax 800/624-1196

© Copyright 1993

# SPIRAL SCREWDRIVERS

A WOODWORKING REVOLUTION IF EVER THERE WAS ONE



**W**ood screws had been in common use for about 100 years by 1868. And for roughly the same length of time, carpenters had been hoping for some less tiresome way to drive them in.

So, the patent issued that year to Isaac Allard, a Belfast, Maine, watchmaker, should have been good news for wrist-weary woodworkers. Allard appropriated the principle of the Archimedean drill—employing a spiral-threaded shaft to convert a downward push to rotary motion—and applied it to the task of driving screws.

That spiral screwdriver didn't create much of a stir, though. In fact, it apparently never went on sale, due to design shortcomings.

In 1874, Allard joined with Belfast machinist F.A. Howard to bring an improved version to market (*top center*). Generally considered the first spiral screwdriver, it was an immediate hit.

The Allard/Howard model was surprisingly sophisticated. A clutch disengaged the drive to enable the user to pull the handle back easily for the next stroke.

Philadelphian A.H. Reid patented another popular type (*center right*) in 1882. Reid incorporated a freewheeling liner into the handle of his for easy pullback.

Another well-received style in the late 1880s came from the Decatur Coffin Co. of Decatur, Illinois, (*top right*). Also known as the Eureka screwdriver, it differed from others of the era in having the spiral thread milled on the inside of the brass housing rather than the blade shank.

Since undertakers didn't need to remove screws once they drove them into coffin lids, wags explained, the Decatur Coffin Co. offered only a right-handed screwdriver. In fact, nobody then made a reversing model that could drive and remove screws.



Spiral screwdrivers revolutionized woodworking in the 19th century. That historic importance and attractive prices (many currently sell for less than \$20) make them ideal for any tool collection—or a great starting point for one.

But in 1892, F.A. Howard brought out a bi-directional screwdriver under the Jones patent (*above left*). To reverse it, the user simply slid a brass ring up or down the barrel.

The North Brothers Manufacturing Co. of Philadelphia introduced the spiral Yankee in 1897. Despite arriving rather late in the game, the name has become nearly synonymous with spiral screwdrivers. (Stanley Works bought the line in 1946.)

Charles Strellinger, a leading hardware dealer in the 19th century, noted that the spiral screwdriver was “among the most wonderful labor-saving tools ever invented . . . an entire revolution.” And woodworkers willingly paid a premium price to join the revolution. At the turn of the century, Sears, Roebuck & Co. offered standard screwdrivers at prices from 4¢ (two-inch blade, beechwood handle) to 45¢ (10-inch polished blade, dyed rosewood handle).

A drive-only spiral screwdriver cost considerably more—82¢. And Sears' top-of-the-line model, the reversible Yankee, listed at \$1.14. Even so, the dozens of models on the market eased work and increased productivity so much that they represented terrific value.

## Still a great buy today

Collectors admire old spiral screwdrivers today because they show “the creative and innovative mind of the late 19th century inventors,” says collector Cliff Fales of Lakewood, Colorado. But there's another reason to appreciate them: price. “They are mostly quite modestly priced, relative to many antique tools,” Cliff says.

Decatur Coffin models, among others, often sell in the \$5–\$15 range, while the Howard/Allard, Howard/Jones, and Reid screwdrivers go for \$20–\$30. At those prices, early spiral screwdrivers are as good a buy today as they were a century ago. ♣

Tools from the collection of C.D. Fales, Lakewood, Colo.  
Photographs: John Hetherington



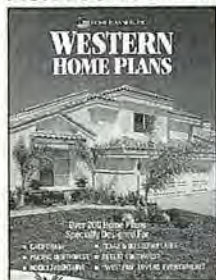
**SAVE  
OVER  
40%**

# Books & Blueprints For Your New Home

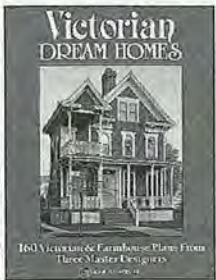
PICK YOUR STYLE . . .

NEW BLUE RIBBON WINNERS

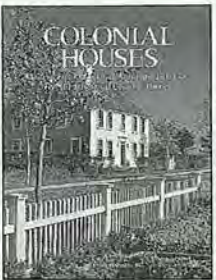
SOLAR



**1 Western Home Plans**  
215 designs that capture the spirit and diversity of the Western lifestyle.  
208 pages. \$8.95



**2 Victorian Dream Homes**  
160 striking Victorian and Farmhouse designs from three leading designers.  
192 pages. \$12.95



**3 Colonial Houses**  
161 historical houses with modern interiors, many from *Colonial Homes Magazine*.  
208 pages. \$10.95



**4 Budget-Smart Home Plans**  
200 efficient plans from 7 top designers that you can really afford to build!  
224 pages. \$6.95



**5 Farmhouse & Country Homes**  
200 country designs from classic to contemporary by 7 winning designers.  
224 pages. \$6.95

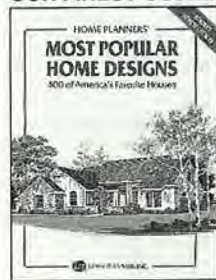


**6 Home Plans For Solar Living**  
100 stylish, energy-efficient, passive-solar designs, plus how to site them.  
192 pages. \$10.95

OUR FINEST COLLECTIONS . . .

AFFORDABLE

LUXURY



**7 Most Popular Home Designs**  
400 of our customers' favorite, proven plans in a variety of styles.  
272 pages. \$9.95



**8 Encyclopedia of Home Designs**  
500 exceptional plans for all styles and budgets—the best book of its kind!  
352 pages. \$9.95



**9 Contemporary Home Plans**  
Revised! 341 sleek, modern designs featuring open floor planning.  
304 pages. \$9.95



**10 Traditional Home Plans**  
Revised! 403 elegant, beautiful homes in classic styles with today's amenities.  
304 pages. \$9.95



**11 Affordable Home Plans**  
403 cost-saving plans specially selected for modest to medium building budgets.  
320 pages. \$8.95



**12 Luxury Dream Homes**  
150 fine luxury plans—loaded with luscious amenities!  
192 pages. \$14.95

REMODELING

DECKS

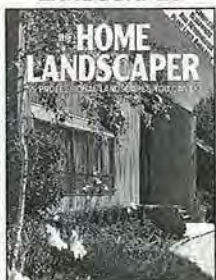
LANDSCAPES



**13 The Home Remodeler**  
Revolutionary collection of 31 remodeling projects—from facelifts to family additions.  
112 pages. \$7.95



**14 Deck Planner**  
25 outstanding single and multi-level deck plans you can build or contract yourself.  
112 pages. \$7.95



**15 Front Yards**  
40 fabulous front yards.  
208 pages. \$12.95

**16 Back Yards**  
40 beautiful back yards.  
160 pages. \$12.95



**YES!** PLEASE SEND THE BOOKS I'VE CIRCLED:

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

**NOTE!** For maximum savings, order several books at once!  
Order any 3 books — DEDUCT \$5  
Order any 4 books — DEDUCT \$10  
Order 5 or more books — DEDUCT \$15  
Order all 16 books pay — JUST \$99!

**FREE!**

Limited Offer!  
With any purchase, you will receive our latest *New Design Portfolio* absolutely free!

Total Amount ..... \$  
Sales Tax (AZ 5% MI 4%) ..... \$  
*New Design Portfolio* ..... \$ **FREE**  
Postage & Handling ..... \$ 3.00  
Total Enclosed ..... \$

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

AVAILABLE AT LOCAL BOOKSTORES OR ORDER BY CREDIT CARD

**CALL TOLL-FREE 1-800-322-6797**

Canadian customers call Toll-Free 1-800-848-2550 or mail in U.S. funds

MAIL TO:  
**HOME PLANNERS, INC.**

DEPT. BK, 3275 WEST INA ROAD, SUITE 110, TUCSON, AZ 85741

WMM37

# Worth writing for...

You can get useful ideas and product information by mail. Use the coupon in this section to order your choice of literature listed below. Each company mails the catalogs or information directly to you.

## POWER TOOLS

**SCROLL SAW, CRAFT & WOODWORKING CATALOG**—Specialty products from the exclusive distributors of HEGNER, the precision saws with SCROLLVERGNUEGEN. Complete information on scroll accessories, including blades and lettering guides. Also JET Clamps, HEGNER Lathes, PLANO Vertical Glue Press, and more. Toll-free customer service hotline included! AMI, LTD. \$2.00. *Circle No. 3.*

**TOOL CRIB CATALOG**—Since 1948, woodworkers, home-builders, industry and schools across the country have looked to the Tool Crib as their source for power tools and equipment. Our prices are low; our sales people are knowledgeable; and our service is first-rate! We stock over 10,000 tools with top name brands like Black & Decker, Delta, Ryobi, Makita, Powermatic, Jet, Freud, Bosch, Porter Cable, Milwaukee and many more. We offer competitive prices with quality service and same day shipping. Send for your NEW 1993 catalog. It's worth it! TOOL CRIB. \$3.00. *Circle No. 6.*

**TRANSPOWER, CP TOOLS INC.**—A fine line of quality woodworking machinery, saws, shapers, planers and more. Send for free catalog. CP TOOLS INC. Free. *Circle No. 15.*

**ENLON IMPORT CORP. GRAND OPENING**—We would like to recognize you as our most important asset. We offer a large selection of fine woodworking machinery, tools and accessories for your business and home workshop. Take advantage of our grand opening specials. Send for catalog. ENLON IMPORT CORP. Free. *Circle No. 35.*

**NEW POWER TOOL ELIMINATES HAND SANDING**—No more bloody knuckle, sore finger sanding. Unique sander, sands along edges and into corners, without bouncing off or running away. The secret is the distinct triangular sanding pad, combined with a high speed oscillation. German made. Brochure shows sander in action. FEIN POWER TOOLS, INC. \$1.00. *Circle No. 37.*

**INCA MACHINERY INFORMATION**—Complete information on the famous line of Inca woodworking machines. Designed for precision work by the small to medium sized cabinet shop. Used by thousands of hobbyists and professionals. Table saws, bandsaws, joiner/planers, dust collector, radial arm saw, GARRETT WADE CO. Free. *Circle No. 44.*

**HOME LUMBER**—For the largest selection of Makita at the right price. We also provide great pricing on Amana Carbides, DeWalt power tools, Bostitch Air Nailers & David White Instruments. Same day shipping, free freight. We accept Visa, Mastercard, Discover, COD. Send for information. HOME LUMBER. \$1.00. *Circle No. 48.*

**WOODWORKING MACHINE CATALOG**—New 24-page color catalog introduces many new do-it-yourself woodworking machines. Includes planers, dust collectors, drill presses, sanders, lathes, and specializes in scroll saws and accessories. PENN STATE INDUSTRIES. Free. *Circle No. 75.*

**DUST COLLECTOR SYSTEMS**—Keep your shop clean and safe from saw dust with one of our large capacity Commercial Style Dust Collection Systems. Catalog features our new DC-3 1-1/2 H.P. Portable System. Free hose and adapters are supplied with any purchase. Full line of Dust Collection accessories is available from Penn State Industries. Catalog. PENN STATE INDUSTRIES. Free. *Circle No. 76.*

**SURFACE PLANER**—Information package available from Penn State Industries describing the specifications and applications of its super 12 1/2 inch surface planer. Special discount pricing available on current promotion. PENN STATE INDUSTRIES. Free. *Circle No. 77.*

**GET TO THE FINISH LINE FASTER**—with a Performax drum sander. Don't spend hours with a hand-held belt sander. Sand ultra-wide stock ultra-smooth in just minutes. Models start at \$300 to \$3495. Select the model that fits

your budget and your needs. New metal abrasive fasteners keep sandpaper tight without re-wrapping. PERFORMAX PRODUCTS. \$1.00. *Circle No. 78.*

**HAND LAMINATE & WOODWORKING TOOLS**—A new catalog is now available that covers 25 groups of special hard-to-find industrial-quality hand tools. Included are VIRUTEX® slitters, PLASTI-CUT® files, laminate shears, scoring cutters, trimmers, plate joiners, and many more. PRACTICAL PRODUCTS CO. \$1.00. *Circle No. 82.*

**WOODWORKING TOOLS & ACCESSORIES**—While the history of RBIndustries goes back 60 years, this is the first time we've brought together all our precision-made tools and accessories in one catalog. The Hawk Precision Scroll Saw, 4-in-1 Woodplaner, Panel Master Door Machine, Router System, and much more. Quality equipment built here in the heart of America. When you buy from us, you deal directly with the manufacturer. Our prices, quality, and 3 year Warranty reflect our commitment. Send today for FREE information. RB INDUSTRIES, INC. Free. *Circle No. 84.*

**TOOLS ON SALE™**—A division of Seven Corners Ace Hardware, Inc. offers a catalog of over 400 pages of the most popular brands of power tools available anywhere, all at discounted prices. Included are saws, planers, sanders, routers, drills and more from manufacturers such as Milwaukee, Makita, Porter Cable, Black & Decker, Dewalt, Freud, Bosch, Delta, and many more. Now introducing a full range of Werner brand ladders. Tools on Sale™ division of SEVEN CORNERS ACE HARDWARE, INC. \$1.00. *Circle No. 92.*

**WILLIAMS & HUSSEY**—Thousands of professionals use our American-made molder/planers to produce curved or straight moldings. Over 40 years of experience with a 5-year warranty. In the shop or at the job site, W & H meets your needs every day with quick knife changeover and ultimate versatility with all kinds of wood. Send for catalog. WILLIAMS & HUSSEY. \$1.00. *Circle No. 93.*

**PORTABLE SAWMILLS**—Convert logs into valuable lumber—Wood-Mizer® Products manufactures a line of portable bandsaw mills that allows the novice as well as the experienced sawyer to safely convert standing logs into lumber. Then, with the use of our SolaryDry™ Kiln or Vacu-Kiln™ to dry your lumber, you could increase the value of every board you produce. We manufacture some of the most progressive woodworking equipment on the market today. Product videos available. Send for our 31-page catalog. WOOD-MIZER PRODUCTS. \$2.00. *Circle No. 94.*

**SERIOUS POWER TOOL CATALOG**—16 pages plus a price list containing pictures, specifications and Tepper Discount Tools pricing on Black & Decker Industrial, Bosch, Porter Cable, and Milwaukee portable power tools stocked by Tepper Discount Tools. These are serious tools for the serious tool user. Cost is \$1 to cover postage and handling. TEPPER DISCOUNT TOOLS. \$1.00. *Circle No. 100.*

## HAND TOOLS

**PERSONAL BRANDING IRONS**—Brochure describes branding irons that enable you to put your name on your work quickly and easily. Made especially for branding wood, they are available with 1, 2, 3 or 4 lines of copy. Changeable date also available. NOVA TOOL CO. \$1.00. *Circle No. 160.*

**THE LION MITER TRIMMER**—A cast-iron, tool-steel mitering tool made in New England since before 1900. This tool will last a lifetime. Cuts any angle 45° - 90°, any wood, hard or soft. Send for information. POOTATUCK CORP. Free. *Circle No. 170.*

**IMPROVE YOUR WOODWORKING SKILLS!**—Craftsmen around the world have discovered the secret of better quality work. The 72 page Japan Woodworker Catalog is loaded with a huge selection of Japanese saws, waterstones, chisels, gouges, carving tools, planes, cutlery and garden tools. Send for 1992 catalog and all supplements for two years. THE JAPAN WOODWORKER. \$1.50. *Circle No. 190.*

## STAINS/FINISHES

**AMAZON'S PREMIUM FINISHING OILS**—These are the finest, enviro-friendly oils. Available since 1978. Golden

Teak oil — Mahogany oil — Oakwood oil — Pure Tung oil — Danish oil — Cedar & Lemon oils. Sold and used, worldwide, in fine furniture finishing as well as toys. All imported and refined oils formulated for all projects. Catalog. AMAZON PRODUCTS. \$1.00. *Circle No. 200.*

## PLANS

**SELL WOOD SIGNS**—Route, carve, scrollsaw signs and animals for fun and profit. Send \$3.00 for pattern samples. Your name set in 2 1/2" high letters included free. (This is not junk). ABC PLANS. \$3.00. *Circle No. 303.*

**WOODWORKERS' PLANS AND SUPPLIES**—Wood projects are simplified with the high quality plans, specialty hardware and other supplies offered by Armor Products. Over 100 plans are available for making toys, desks, clocks, pool tables, lamps, chests, and other furniture. Movements, dials, moldings, ornaments, dollhouse kits, door harp supplies and tuning pins are also available. ARMOR PRODUCTS. \$1.00. *Circle No. 315.*

**BED PLANS**—Poster Beds, Sleigh Beds, Mission Beds and other Classic designs that you can build. Send for brochure of plans available. CLASSIC FURNITURE, INC. \$4.00. *Circle No. 325.*

**EXCLUSIVE SOUTHWESTERN HOME FURNISHINGS**—Tao-style day bed w/ cedar chest under; authentic mini-chest/saddle rest; territorial table-bench; rustic garden tote. Brochures (price refunded with order) feature traditional and futon sofa-bed frames. Planbook includes plans with full-size details, resources, easy-to-follow instructions. All proven at craft fairs and in the retail showroom. Available nowhere else. DESERT ROSE. \$1.00. *Circle No. 340.*

**FURNITURE PLANS & HARDWARE KITS CATALOG**—Save time, save money. Choose from a growing selection of plans for small projects to large furniture. Buy the plans only, or the complete hardware kit including hard to find molding, hardware, and brass glass. Plans include desks, entertainment centers, hutches, and more. Full size patterns where necessary. You provide the wood, we provide everything else you need. DREAMWOOD. \$1.00. *Circle No. 342.*

**FULL-SIZE FURNITURE PLANS CATALOG**—Illustrates and describes over 200 plans for making furniture of quality found in museums and fine furniture stores. Plans include rollout desk, cradles, dining tables, chairs, buffets, chests, gun cabinets, poker table, children's furniture, rocking horse, spinning wheels, and more. Bill of materials exploded drawings assist the woodworker. FURNITURE DESIGNS, INC. \$3.00. *Circle No. 345.*

**THE GIZMO FACTORY**—presents 3 unique birdhouse designs for the intermediate skill level craftsman. The Castle, The New England Church, & The Airplane Hangar. Complete working drawings, cutting details, sequential assembly drawings with photos. Step by step instructions. Send \$1.00 for photo and information packet. THE GIZMO FACTORY. \$1.00. *Circle No. 360.*

**430 AFFORDABLE HOME PLANS**—This top seller has plans to satisfy modest and medium building budgets. Each of four sections—one-, 1 1/2 two-story, and multi-level—includes styles such as Tudor, Early American, Spanish & Western, and Contemporary. Floor plans include houses for narrow and sloping sites. Economical rectangular shapes as well as expandable 1 1/2 story houses are included. A handy check list is provided to help you plan a more affordable home. Blueprints available. HOME PLANNERS, INC. \$9.95 ppd. *Circle No. 373.*

**DECK PLANNER**—Not just another collection of deck ideas or photos. Practical plans and details are provided for 25 different decks, including single-, double-, and multi-level designs, and wrap-around decks. These beautiful wood decks are designed for a variety of house styles and feature storage compartments, serving counters, overhead trellises, and seating areas. How-to data and project starters for the build-it-yourselfer as well as information necessary to effectively oversee deck construction are also included. Blueprints and material lists available. HOME PLANNERS, INC. \$8.95. *Circle No. 374.*

**ENCYCLOPEDIA OF HOME DESIGNS**—A total of 500 different designs offers the richest and most varied selection of plans now available in any single home plan book. Exterior styles include Early American, Colonial, Federal, Tudor, French, Spanish, and Contemporary. Over 1,368 illustrations make this volume the perfect reference and idea-book. Blueprints available. HOME PLANNERS, INC. \$12.50. Circle No. 375.

**WOOD PLANS AND PRODUCTS!**—Our catalog is a compilation of hard-to-find products and projects we have found to be of the best quality and value for the woodworking enthusiast. Send 50¢ for catalog. LACK WOOD PRODUCTS, 50¢. Circle No. 395.

**PROJECT PLANS**—Full-size patterns for over 500 easy-to-build woodworking projects. Nation's leading source for scroll saw patterns, cow projects, toy plans, yard ornaments, wood furniture, etc. Over 3000 hard-to-find specialty items. Send for your big new 80-page catalog. MEISEL HARDWARE SPECIALTIES. \$2.00. Circle No. 401.

**WOOD TOY PATTERNS**—Patterns for all ages including children's patterns and executive toys. New catalog has many new patterns to choose from including parts and wheels. Send for new catalog and receive a coupon for free wheels and axle pegs. TOYS AND JOYS. \$1.00. Circle No. 465.

## LUMBER

**QUALITY EXOTIC LUMBER/TURNING WOODS**—We offer a comprehensive selection of fine quality exotic woods. Also available are mechanisms for making wooden barrel pens/pencils/roller balls/ fountain pens. Ebony, Kingwood, Tulipwood, Snake-wood, African Blackwood, Cocobolo, Bloodwood, Figured Maple, Spalted Maple, Padauk, etc. Unique and unusual turning woods and burls are also available. Send for catalog. BEREA HARDWOODS. \$1.00. Circle No. 510.

**ONE STOP WOOD SHOP**—Domestic and exotic hardwood plywood and lumber, marine plywood, over 30 species in stock—all under one roof. Custom cutting services to your exact specifications with little or no waste at competitive prices! We specialize in bundling and shipping. Send for catalog. BOULTER PLYWOOD CORP. Free. Circle No. 512.

**YOU DESERVE QUALITY HARDWOODS**—Bristol Valley Hardwoods is the hardwood store you've been looking for. Domestic & exotic lumber, thin stock, hardwood plywood & flexible veneers, dowels and 25 Sq. Ft. advantage packages. Catalog. BRISTOL VALLEY HARDWOODS. \$1.00. Circle No. 513.

**FINE KILN DRIED HARDWOODS**—For crafts, cabinet and furniture makers. Price list and newsletter have lumber species and retail prices of dowels, lumber and finishing products. No minimum order. Lumber available surfaced or unsurfaced shipped by UPS. Send for price list and newsletter. HARTWOOD LTD. Free. Circle No. 547.

**STEVE H. WALL LUMBER CO.**—Quality hardwoods and woodworking machinery for the craftsman and educational institutions. 16-page catalog lists 17 species of popular hardwoods at wholesale prices. Also dealers for MiniMax, Freud and ProCut woodworking machines. STEVE H. WALL LUMBER CO. \$1.00. Circle No. 592.

**EXOTIC IMPORTED AND DOMESTIC HARDWOODS**—Over 75 species of lumber, bowl blanks, turning squares and veneer. Samples (1/2" x 3" x 6") ideal for craftsmen, furniture and cabinet makers, architects, and designers available. Catalog provides common and botanical name, source, and description of each wood. Send for catalog. WOODWORKERS SOURCE. \$1.00. Circle No. 598.

## VIDEOS

**LAGUNA TOOLS VIDEO**—Learn why most European workshops are using a central machine center rather than separate machines. 90 min. video presentation of "The Intelligent One Man Shop. The Robland X 31". Send for video. LAGUNA TOOLS. \$6.00. Circle No. 615.

## GENERAL WOODWORKING CATALOGS

**EVERYTHING FOR THE WOODWORKER**—Wide selection of woodworking supplies, including candle cups and shaker pegs. Price of catalog is refundable with order. BENNY'S WOODWORKS. \$1.00. Circle No. 810.

**THE WOODTURNERS CATALOG**—48 color pages of the finest woodturning tools, machinery and supplies available. Featuring Henry Taylor, Sorby, Richard Raffan and Dale Nish workshops. Catalog price refunded with order. CRAFT SUPPLIES USA. \$2.00. Circle No. 830.

**FREE SPECIALTY TOOLS CATALOG**—See tools you never knew existed in Eastwood's 164+ page full color catalog. Includes informative product descriptions, action photos and technical articles. Learn about hand tools, welders, sand blast cabinets, buffing kits, paint & pinstripping supplies, metal working tools, books & videos, transportation collectables—lots more! 30 Day Money-Back Guarantee on All Eastwood Products. Catalog Free! THE EASTWOOD COMPANY. Free. Circle No. 840.

**MASTER TOOLS CATALOG**—1992-93 236-page master woodworking tools catalog. Full line of the best hand tools, power tools & accessories, machinery, glues, finishing supplies, workbenches, and much more. Hundreds of books included. All four-color. Lots of technical information. GARRETT WADE CO. \$4.00. Circle No. 855.

**GRIZZLY IMPORTS, INC.**—1993 is our 10th year of providing woodworkers with an incredible selection of machines, tools and accessories at prices you can afford. Send for your free 1993 catalog today and celebrate with tremendous savings on all your woodworking needs. GRIZZLY IMPORTS INC. Free. Circle No. 860.

## KITS

**OUR QUEEN ANNE FURNITURE KITS**—are ready to assemble and finish. They include dining room table, chairs, hutch, sideboard, a variety of occasional tables, and a personal desk. All are made in solid cherry, oak, walnut, and mahogany. We also stock individual Queen Anne legs for every project. Complete information in our brochure packet. ADAMS WOOD PRODUCTS. Free. Circle No. 1002.

**DO-IT-YOURSELF KITS**—Choose from a large selection of grandfather, wall and mantel clocks, as well as elegantly styled accent furniture pieces. Kits are made of solid 3/4" hardwoods, primarily cherry, oak, and black walnut. Buy direct from the factory and save. Send for 36 page color catalog. EMPEROR CLOCK CO. \$1.00. Circle No. 1030.

**SHIP MODELING CATALOG**—Historic Ship Models—Museum quality replicas you build yourself. Pre-cut wooden parts, metal and brass fittings, cloth sails, plans and instructions. Send for 80 page color catalog. MODEL EXPO, INC. \$1.00. Circle No. 1075.

**BUCKBOARD BENCH KIT**—Kit includes, steel springs that give a little, metal arms and back rails, hardware, and complete instructions. Also available kit with oak parts cut to size. Send for information. THE ROUEBUSH CO. 50¢. Circle No. 1085.

## PUBLICATIONS

**WOODTURNERS! THE AMERICAN ASSOCIATION OF WOODTURNERS CAN HELP YOU!**—Join over 3,600 woodturners who are already members. You will receive: a quarterly journal filled with woodturning articles, tips, and projects; a directory of AAW members, local chapters, instructors, and suppliers; information about national symposiums. Send for information. AMERICAN ASSOCIATION OF WOODTURNERS. \$1.00. Circle No. 1110.

## SHOP ACCESSORIES

**LUMBER DRYING SYSTEMS**—Ebac Lumber Dryers offers a wide variety of sizes from 50 B.F. to over 10,000 B.F. Three models are priced under \$3000. You get the highest quality lumber dried down to 6% - 8% moisture content. Our controllers make them easy to operate and energy efficient. Kiln construction guide included to build your chamber. EBAC LUMBER DRYERS. Free. Circle No. 1228.

**ECON-ABRASIVES**—manufactures abrasive belts up to 52" wide in any grit. We carry hundreds of woodworking related accessories including: Velcro® backed discs, bar clamps, wood glue, drawer slides, chisels, hinges and hundreds of sanding accessories. Send for our 1992 catalog. ECON-ABRASIVES. Free. Circle No. 1229.

**EASY DOES IT**—with HTC'S power tool accessories. Discover many unique items, designed only with you, the dedicated woodworker, in mind. Make your machinery safer, increase the working area of your shop and accomplish nearly impossible tasks easily, quickly, accurately. Full-line catalog and price list. HTC PRODUCTS, INC. Free. Circle No. 1245.

**WOOD MOISTURE METER**—Avoid moisture problems such as cracking, warping, splitting, delamination etc. by using a moisture meter, as described in the latest brochure. Moisture Meter Mini-Ligno is designed for serious hobbyists and woodworkers. Attachments for depth measurements and remote reading during air and kiln drying are available. Available Moisture Range 6-20%, 6-36% or 4-30%, 4-60%. Catalog describes complete line of moisture meters. LIGNOMAT USA, LTD. Free. Circle No. 1250.

**ROUTER SPEED CONTROL**—Reduces speed electronically without reducing torque. Route at the speed that gives best results with the wood and bit you are using. Speed adjustable from full speed to 0 RPM. Less tear out—stops burning—less wear on bits—easy to use. Send today for information. MLCS LTD. Free. Circle No. 1251.

**LUMBER DRYING**—Dry your own lumber using our equipment and your insulated chamber. Dehumidification systems from 300 BF to 45,000 BF. Easy to operate equipment offers high quality kiln-dried lumber for pennies per foot. These long-lasting made-in-the-USA units can pay for themselves in one month! Send for free catalog. NYLE STANDARD DRYERS, INC. Free. Circle No. 1260.

**PLYMATE SAW GUIDE**—Easier to use than any other guide on the market. The guide that delivers straight, accurate cuts the first time. For use with a circular saw when cutting large pieces of plywood & sheet materials. Free literature. OLIVE KNOT PRODUCTS. Free. Circle No. 1262.

**ROTO CARVE—AMERICA'S MOST UNIQUE CARVING MACHINE**—Now you can duplicate 3 dimensional patterns with extreme accuracy using ROTO CARVE and your table saw. Many shapes from round to square or tapered, without time consuming setup changes. Furniture restoration or reproduction, gun stocks, decoys, lamp bases are a few of the items produced on the ROTO CARVE. Free brochure. ROTO CARVE. Free. Circle No. 1270.

**SAND-RITE CONTOUR SANDER**—Unlimited in their use throughout the woodworking industry. Air-inflated drum conforms to the shape of the work. Eliminates tedious hand sanding. Catalogue. SAND-RITE MFG. CO. Free. Circle No. 1274.

**"EVERYTHING FOR YOUR ROUTER CATALOG"**—Professional quality tables, fences, router bits, acrylic and phenolic plates, jigs, biscuit joinery, mortise machines plus booklets and videos. Buy direct from the manufacturer and save on quality American made tools. WOODHAVEN. Free. Circle No. 1290.

## BITS, BLADES, CUTTING TOOLS

**CASCADE TOOLS**—The 1993 Cascade Tools catalog is the finest ever. It's jammed with great buys on SY brand industrial-grade router bits, shaper cutters and an excellent assortment of hard-to-find accessories. You'll have to see it to believe it. CASCADE TOOLS, INC. Free. Circle No. 1315.

**FREUD**—Premier line of carbide-tipped sawblades, router bits, shaper cutters and other woodworking tools. Freud offers a full-line on anti-kickback carbide-tipped router bits. Send for a free new router bit catalog. FREUD. Free. Circle No. 1321.

**SUPER-SMOOTH, EXTRA-DURABLE, CARBIDE-TIPPED CIRCULAR SAW BLADES**—Get a smooth-sanded surface with our all-purpose 40-tooth Woodworker Blade. You will be able to rip and cross-cut 1 - 2 in. rock hard and soft woods with an unbelievably smooth finish. You will also be able to cross-cut oak and birch ply-veneers with no bottom splinters. Send today for our information pack. FORREST MFG. CO., INC. \$1.00. Circle No. 1322.

**THE SOURCE FOR KNIFEMAKING SUPPLIES**—We have PRE-SHAPED Blades, Rivets, Handle Materials, Baldor buffers and grinders, Polishing Wheels and Compounds, Dremel tools and Accessories, Belt Grinders and Abrasive Belts, Starrett Precision Tools, Files, Punches, Drill Bits, Panavise and Panapress, Woodcarving Tools and much more! Send for our Complete line catalog and we will include our "KNIFEMAKING PROJECT" booklet at no extra charge. JANTZ SUPPLY. \$3.00. Circle No. 1330.

**PRODUCTION QUALITY CARBIDE TIPPED ROUTER BITS**—MLCS Ltd. has a new 32-page catalog featuring hundreds of high quality carbide tipped router bits, shaper cutters, the Router Speed Control, the "Merle Adjustable Corner Clamp," plus other Professional Woodworking Products. Prices 50% to 70% lower than elsewhere. Value, quality and prompt service guaranteed! MLCS LTD. Free. Circle No. 1350.

**MAGNATE**—provides a full line of affordable carbide tipped router bits and shaper cutters. Send for FREE new 1992-93 catalog. MAGNATE. Free. Circle No. 1355.

## HARDWARE/WOOD PARTS

**CHERRY TREE TOYS CATALOG**—68 pages of plans, parts, kits and supplies for All Skill Levels. Clocks, whirligigs, dollhouses, door harps, banks, and many more attractive items—plus wooden dowels, pegs, wheels, knobs, and more. Tools, paint supplies, stencils, stamps and much more! Bulk prices available. Catalog. CHERRY TREE TOYS. \$1.00. Circle No. 1420.

**HARDWARE CATALOG**—A unique 48-page catalog of the very finest in classic, traditional solid brass cabinet hardware. All of British or No. American manufacture. Double & single post handles, knobs, escutcheons, standard & specialty hinges, box hardware, brass screws, castors, latches, catches, locks, and more. GARRETT WADE CO. \$3.00. Circle No. 1427.

## INCOME OPPORTUNITIES

**MAKE MONEY IN FURNITURE RESTORATION THE MINUTEMAN WAY**—Earn \$200-\$1000 per day stripping, repairing, refinishing, mirror resilvering, and/or veneering, at home or in shop, spare time or full time. We provide complete training; no experience necessary. Free workshop teaches you latest in furniture restoration. You have to see it to believe it! Business preview video \$19.95. Send for catalog. MINUTEMAN. \$2.00. Circle No. 1661.

## MISCELLANEOUS

**MECHANISMS FOR MAKING WOODEN BARREL PENS**—Pencils/Roller Ball Pens/Fountain Pens. High quality. Low prices. Wholesale/Retail. Plus other related items. BEREA HARDWOODS CO. \$1.00. Circle No. 1900.

**HVLP & AIRBRUSH SPRAYING**—Award winning HVLP technology available in touch-up spray gun. Lightweight (10 oz.) design complies with current regulations. Available in siphon, pressure, and gravity feed models. Also, a full line of airbrushes and accessories. Products range from tiny color cups and bottles to complete airbrush outfits and compressors. BINKS MFG. CO. \$1.00. Circle No. 1905.

**DELPHI STAINED GLASS**—80-page color catalog of stained glass and related supplies. Beveled glass, hard-to-find tools, hundreds of unique patterns, kits, books, videos, and lots more. For 18 years, we've supplied both hobbyists and professionals with quality products, friendly advice, and fast 24-hour shipping. All products guaranteed 100%. DELPHI STAINED GLASS. \$4.50. Circle No. 1920.

**DRAW & SAW**—quick and easy new method of tracing and upscaling patterns with adhesive film imprinted with 1/4" - 1" grid lines. No more messy glues, expensive enlargements or pattern shifting; leaves no residue or pattern lines. Draw & Saw adheres to all woods, accepts pen, pencil or print directly on it thru a copier machine. Great with scroll, jig or band saws. Saves time and eliminates extra tracing. Send for 9 x 12" sample and product information. GRAPHIC ARTS SYSTEMS. \$1.00. Circle No. 1950.

**ARMRESTS FOR YOUR CAR**—Add a TracTop® sliding cushion front center armrest with pullout tray. Models for foreign and domestic bucket seat cars, Honda, Saab, Audi, Ford, GEO, Volvo, etc. Color choices. #1 worldwide for 12 years! HUSCO ENGINEERING. \$1.00. Circle No. 1960.

**NIXALITE OF AMERICA INC.**—Presents a new 4 page color brochure that describes Nixalite's Stainless Steel Needle Strips, their varied applications and the services offered by the Specialists' in Bird Control. Send for a free copy. NIXALITE OF AMERICA, INC. Free. Circle No. 1983.

**ROLL-TOP COVER**—QUICK & EASY! The Roll-Top Cover instantly rolls out to keep contents dry and secure. When not required it rolls into its small 9 1/2" storage canister for carrying tall loads. The full length handle can be easily operated with one hand from either side of the truck. Send for brochure. PACE-EDWARDS CO. \$1.00. Circle No. 1985.

**HI-TECH ENGRAVING**—You don't have to be an artist with the System One High Speed Engraver (400,000 RPM). The incredible high speed combined with SCM's exclusive stenciling system allows you to produce professional results. You can engrave on wood, glass, metal, stone, ceramic, egg shell. It's as easy as writing with a pen. Send for information. SCM ENTERPRISES. \$1.00. Circle No. 1990.

**STEELMASTER BUILDINGS**—are available in almost any size for almost any use. From 10' to 100' wide and any length imaginable. Whether you need a back yard shop... an industrial shop... equipment storage building... whatever your requirements, you'll find a Steelmaster that's just the right size for the job. Our buildings are so easy to construct, most owners opt to construct their buildings themselves which adds up to even bigger savings. Send for information. STEELMASTER. \$1.00. Circle No. 2030.

**IF YOU ARE INTERESTED IN RESTORING ANTIQUES**—this 264-page catalog packed with unusual, hard-to-find items is just for you. Included are hundreds of essential items for antique restoration including top quality brass reproduction hardware, oil lamps and accessories, numerous wood component repair parts and kits, caning and basketry supplies, everything needed for wood finishing, related tools, books, and a complete line of upholstery

equipment and supplies. All at wholesale prices. Send for this informative catalog. VAN DYKE'S RESTORERS. \$1.00. Circle No. 2077.

**LEGAL IVORY**—Virtually identical to animal ivory. Tagua is the nut from a tropical palm tree. Ideal for jewelry, knobs, small turnings, inlay, or scrimshaw. Available in 3 sizes. Send for information. WOODWORKERS SOURCE. Free. Circle No. 2090.

**\*THE WOODWORKING SHOWS\* MACHINERY, TOOLS AND SUPPLIES**—Hundreds of products for the woodworker demonstrated and sold at discount prices at every "Woodworking Show". In-depth seminars and free workshops on a variety of woodworking topics. Shows are scheduled in 27 cities. Send for free brochure. \*THE WOODWORKING SHOWS\*. Free. Circle No. 2095.

## CARVING SUPPLIES

**WOOD CARVING MACHINES AND ACCESSORIES**—make all types of wood carving easy, fun and profitable. The machines do the work. Whether for sign carving, flat 3-D, decoys, panels, gun stocks or furniture, we have the proper machine for the job. Professional woodcarving for the hobbyist and superior quality for the professional. Begin your hobby or full or part-time business by ordering our catalog and price list. MARLIN INDUSTRIES. \$1.00. Circle No. 2150.

**WOODCARVING TOOLS**—Whittlers and carvers—Warren Tool Co., Inc. offers a complete catalog of whittling and carving, hand tools, sharpening aids, wood cut-outs, and related wood carving supplies. WARREN TOOL CO., INC. \$1.00. Circle No. 2185.

## CLAMPS

**NON-MARRING ADJUSTABLE HAND CLAMPS**—BTM has introduced a new line of reinforced polymer workholding clamps. All models feature large bearings for long life. The clamps are extremely lightweight, yet very strong and fully adjustable. Most models are bench mountable. The polymer clamps can be immersed in water, even at the boiling point. The clamps won't rust and are resistant to most acids and chemicals, as well as electrically non-conductive. Made in the U.S.A. Send \$2.00 for a complete brochure (refunded with order). BTM CORPORATION. \$2.00. Circle No. 2210.

**MERLE ADJUSTABLE CORNER CLAMP**—Quick & easy to use. It forces your work into square. Fully adjustable from 2 1/2" x 2 1/2" to 69" x 69" in. Perfect for clamping picture frames, cabinets, or anything that requires 90° corner clamping. The Merle Clamp is cast aluminum & steel construction, a true industrial quality tool. Send today for information. MLCS LTD. Free. Circle No. 2250.

**QUAKER STATE WOODWORKING SUPPLY INC.**—one of the largest "Quick-Grip" and "Jorgensen" dealers on the EAST COAST. Great prices along with expert service and advice will make QUAKER STATE your supplier of wood-working clamps and acc. Information and price list. QUAKER STATE. Free. Circle No. 2260.

## CLOCKS

**BUILD HEIRLOOM CLOCKS**—Now create beautiful heirloom quality clocks right in your own home. Choose from magnificent chiming grandfather clocks to charming wall clocks. 32-page catalog also offers a selection of music boxes, music movements, traditional barometers, and a huge variety of quartz movements and dials for custom clock building. Satisfaction guaranteed. THE AMERICAN CLOCKMAKER. \$1.00. Circle No. 2320.

**KLOCKIT'S FREE 64-PAGE COLOR CATALOG**—is packed with the largest selection of beautiful wood clock kits for all skill levels, a huge selection of quartz and mechanical clock movements, dials and accessories, turned wood parts, music movements, tools and much more for the craftsman! KLOCKIT. Free. Circle No. 2335.

## FASTENING PRODUCTS

**DOUBLE "T" FASTENER**—Blind fastener used for quick wood joints—attach trim/molding no nail holes to fill, used in place of dowels or biscuits in edge and butt joining. Unique design holds many joints without clamping. Fastener is set with a special tool then pieces are pressed or hammered together. Fast-Easy-Permanent! GIFTS OF CREATION FASTENER DIV. 50c. Circle No. 2435.

**SQUARE DRIVE SCREWS**—Thousands agree—once you try them you will never want to use anything else! The square drive recess virtually eliminates work-damaging driver bit "cam-out," the deep threads result in exceptional holding power, and they are heat treated for strength. Sizes from #4 x 3/8" to #12 x 4", with stainless steel, solid brass, brass plated, and zinc plated available. Quantity discounts. Send for literature. MCFEELY HARDWOODS. \$1.00. Circle No. 2450.

*Worth writing for...*



Better Homes and Gardens®  
WOOD Magazine, August 1993  
Dept. AGWO93  
P.O. Box 2713  
Boulder, Colorado 80329-2713

TO ENSURE PROMPT HANDLING OF YOUR ORDER FOLLOW THESE INSTRUCTIONS:

- Circle your choice
- Enclose check or money order for cost of booklets plus \$2.00 service charge (no stamps accepted)
- NO FOREIGN ORDERS ACCEPTED
- Send coupon and remittance to address above
- ALLOW 4-6 WEEKS FOR DELIVERY
- Coupon expires August 10, 1994

### WOOD SUBSCRIPTION

1. A 1 year WOOD subscription (9 issues) for \$24.97 (U.S. price)—a \$10.58 savings off newsstand rate. Allow 6-8 weeks for first issue. Be sure to include payment with total below. NO FOREIGN ORDERS ACCEPTED ON THIS COUPON; please contact Subscription Dept. directly.

Circle numbers below corresponding to items in this issue. Please include \$2.00 for handling charge.

3.....\$2.00	93.....\$1.00	373.....\$9.95	830.....\$2.00	1260.....Free	1900.....\$1.00	2210.....\$2.00
6.....\$3.00	94.....\$2.00	374.....\$8.95	840.....Free	1262.....Free	1905.....\$1.00	2250.....Free
15.....Free	100.....\$1.00	375.....\$12.50	855.....\$4.00	1270.....Free	1920.....\$4.50	2260.....Free
35.....Free	160.....\$1.00	395.....50c	860.....Free	1274.....Free	1950.....\$1.00	2320.....\$1.00
37.....\$1.00	170.....Free	401.....\$2.00	1002.....Free	1290.....Free	1960.....\$1.00	2335.....Free
44.....Free	190.....\$1.50	465.....\$1.00	1030.....\$1.00	1315.....Free	1983.....Free	2435.....50c
48.....\$1.00	200.....\$1.00	510.....\$1.00	1075.....\$1.00	1321.....Free	1985.....\$1.00	2450.....\$1.00
75.....Free	303.....\$3.00	512.....Free	1085.....50c	1322.....\$1.00	1990.....\$1.00	
76.....Free	315.....\$1.00	513.....\$1.00	1110.....\$1.00	1330.....\$3.00	2030.....\$1.00	
77.....Free	325.....\$4.00	547.....Free	1228.....Free	1350.....Free	2077.....\$1.00	
78.....\$1.00	340.....\$1.00	592.....\$1.00	1229.....Free	1355.....Free	2090.....Free	
82.....\$1.00	342.....\$1.00	598.....\$1.00	1245.....Free	1420.....\$1.00	2095.....Free	
84.....Free	345.....\$3.00	615.....\$6.00	1250.....Free	1427.....\$3.00	2150.....\$1.00	
92.....\$1.00	360.....\$1.00	810.....\$1.00	1251.....Free	1661.....\$2.00	2185.....\$1.00	

Name (please print) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

Phone (Optional): \_\_\_\_\_

### I AM ENCLOSING:

\$ \_\_\_\_\_ for priced items

\$ 2.00 for handling

\$ \_\_\_\_\_ total remittance



DELTA TOOLS
Model Description List Sale
23-700 Wet/Dry Grinder.....234 168
23-680 6" Bench Grinder 1/4 HP.....86 75
23-880 8" Bench Grinder 1/2 HP.....151 115

MILWAUKEE TOOLS
6527 NEW Sawzall with case.....299 184
6528 above Sawzall w/wired cord.....295 164
6125 NEW 5" Random Orbital Sander 200 119

FREUD CARBIDE TIPPED SAW BLADES
5/8" Bore - Industrial Grade
Item Description Teeth List Sale
LU72M010 Gen Pur. A.T.B.10" 40 67 39

The following are FREUD Tools with a \$30.00 rebate!
Price shown is before rebate - Expires 6/30/93
TJ2000E3-1/4 HP vspd Plunge Router.....100 199

MAKITA TOOLS
Model Description List Sale
6070DW 3/8" vspd Reverse Drill 7.2V 124 74
6071DWK above Drill w/removable batt. 194 108

SIJOUX TOOLS
8030 New 3/8" var/spd Drill.....238 148
8000 3/8" var/spd close qtr Drill.....201 128
690 5" Air Random Orbit Sander.....139 138

SENCO AIR NAILERS
SFN1 Finishing Nailer 1" - 2".....377 269
SFN2 Finish Nailer 1-1/2" - 2-1/2".....571 378

BOSTITCH AIR NAILERS
N60S-1 Stick Nailer.....Super Sale 355
N12B-1 Coil Roofing Nailer.....845 399

EXCALIBUR Fences & Tables
TT45R24L9 24" Fence.....369 299
TT45R50L12 50" Fence.....399 318

SKIL SZILLERS
77 7-1/4" Worm Drive Saw.....230 144
2735-04 12 volt cordless Drill Kit.....210 132

PANASONIC CORDLESS
EY6205BC NEW variable speed 12 volt Drill
w/15 minute charger & case.....390 179

HITACHI TOOLS
CT7D 7-1/4" Circular Saw with brake.....230 118
M12V NEW 3 HP var. speed Router.....447 225

1993 TOOL CATALOG AVAILABLE
Call Toll-Free 1-800-328-0457 in Minn. Call (612)224-4859
CHECK A MONEY ORDER • VISA • MASTERCARD • DISCOVER
SEVEN CORNERS ACE HDW. INC.
216 West 7th St. • St. Paul, MN 55102 • Est. 1933

Up to 6% cash
rebate on your
purchases!

\$600.00 - \$999.99
Receive a 2% Rebate
Check

\$1,000.00-\$1,499.99
Receive a 4% Rebate
Check

\$1,500.00-\$2,999.99
Receive a 5% Rebate
Check

over \$3,000.00
Receive a 6% Rebate
Check

DELTA
#34-080
10" MITER BOX
XTRA SPECIAL
198.00

TOOLSON SALE!™
AMERICA'S LOWEST PRICED TOOLS
FREE FREIGHT TO THE
48 CONTINENTAL STATES ON EVERY ITEM
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DEWALT TOOLS
DW3647-1/4" Circ. Saw w/brake 13 A.....245 145
DW944K 3/8" 12V cds Drill Kit w/2 batt.284 169

PORTA NAILER
401 Porta Nailer complete.....265 198
501 Face Nailer complete.....265 195

WERNER LADDERS
9200 4' Fiberglass.....179 65
6205 5' Fiberglass.....199 75

SUMMER KIT SPECIALS
9852K Porter Cable 9852 Drill Kit w/extra batt185
9853K Porter Cable 9853 Drill Kit w/extra batt175

BIESMEYER FENCES
B-50 50' Commercial. Saw Fence.....329 294
T-SQUARE 52 52' Homeshop Fence.....249 234

WEDGE SMART LEVEL
SM-PR2 2 FT Level with sensor 120 88
SM-PR4 4 FT Level with sensor 150 105

Msx636 FEIN Triangle Sander Kit Sale 195
LPN672 PONY Air Palm Nailer w/gfwoSale 94.99

JORGENSEN ADJUSTABLE HANDSCREWS
Item# Jaw Open List Sale Box
#0 8" 4-1/2" 19.00 11.89 61.00

JORGENSEN STYLE 37 2-1/2" Throat 1/4" x3/4"
Item# Jaw Length List Sale Box of 6
3706 6" 9.86 6.25 34.75

PONY CLAMP FIXTURES
Model List Sale of 12
50 3/4" Black Pipe Clamps 13.61 7.89 84.99

BOSCH
1581VS1 Top Handle Jig Saw.....265 142
1582VSC NEW CLIC Barrel Jig Saw.....265 142
Bosch Metal Case for above Jig Saws.....34 34

ELU BY BLACK & DECKER
Model Description List Sale
3338 2-1/4 HP vspd Plunge Router.....427 265
3375 3-1/8" Univ. Planer 7.2 amp.....313 155

BLACK & DECKER
1166 3/8" Drill 0-2500 rpm 4 amp.....100 65
1703-1 10" Mire Saw w/73-770 blade.....313 185

DAVID WHITE
LP6-20 Sight Level package - 20x.....310 198
L6-20 Meridian Level - 20x.....290 185

RYOBI SPECIALS
JP-155 6-1/8" Jointer/Planer.....611 305
TS-254 NEW 10" Mire Saw.....397 199

LAMELLO BISCUIT JOINERS
Top 10 "Simply the Best".....699 569
STANDARD 10 "Professionals Choice".....499 399

QUAL-CRAFT PRODUCTS
2000 Pump Jack.....79 56
2001 Pump Jack Brace.....30 20

PORTER CABLE
690 1-1/2 HP Router 8 amp.....240 134
9890 690 Router with steel case.....305 149

PONY CLAMP FIXTURES
Model List Sale of 12
50 3/4" Black Pipe Clamps 13.61 7.89 84.99

BOSCH
1581VS1 Top Handle Jig Saw.....265 142
1582VSC NEW CLIC Barrel Jig Saw.....265 142
Bosch Metal Case for above Jig Saws.....34 34

## CEDAR'S SUPER SERVICE

What's the best outdoor finish for western red cedar, or the most effective glue? Is there a western red cedar lumber grade that won't tax your budget? Now, you can find the answers to questions like these with a letter, call, or fax.

The Western Red Cedar Lumber Association (WRCLA) provides free information on its product.

Request general literature on siding, paneling, decking, design ideas, outdoor projects, or finishing. Or, ask specific project-related questions. In

the East, direct your letters to: WRCLA, 4290 Bells Ferry Rd, Ste. 106-581, Kennesaw, GA 30144 (404/928-3318, fax 404/591-8593); Midwest: WRCLA, P.O. Box 2888, Naperville, IL 60567-2888 (708/369-2828, fax 708/369-8561); West: WRCLA, 1200/555 Burrard St., Vancouver, B.C. Canada V7X 1S7 (604/684-0266, fax 604/687-4930).

## Add soybeans to newspapers and what do you get?

For researchers in Mankato, Minnesota, the combo resulted in a wood, of sorts. The inventors of NewStone, a granite-hard material that mills like wood, say that 55 pounds of newspapers mixed with soybean resin yields enough "wood" for a desk with drawers.

Phenix Composites, Inc., of Mankato, markets the new material that not only recycles waste paper destined for the landfill, but proves to be a boon for farmers. And, NewStone's manufacturing process produces no toxic waste.

Photograph: Peter Maller  
Illustrations: Jim Stevenson

**FRONT & CENTER**  
WOODWORKERS WHO  
MAKE A DIFFERENCE

**Name:**

Warren J. Malak

**Age:** 42

**Home:** Wisconsin Rapids, Wisconsin

**Occupation:** Toymaker

Ever since WOOD® magazine's Build-A-Toy® contest began, readers have written telling us how good it makes them feel to donate their creations to needy children. This year, one of those letters really stands out.

Warren J. Malak wrote to explain just what it meant to him to enter the contest. His words are eloquent. Here's part of his letter:

*"I don't think I am any different than any other toymaker who, year after year, sends out his love in the form of wooden toys. I take pride in knowing that I am doing something to help.*

*"When I awake each morning, I need to know that this new day will bring some kind of meaning for me. Being visually impaired all of my life, I know what it means to be missing something that others may take for granted. I also know what it is to need food, housing, warmth, and love. So this is why I give my toys to your program and many other local ones. These toys may never win a contest prize because I don't make them for that reason, but they will win what I build into each one, a feeling of love, understanding, and hope. . . ."*



Despite impaired eyesight, Warren J. Malak has produced hundreds of toys to give away, both locally and to contests such as Build-A-Toy®.

Warren also shared a little about his life. You see, he's suffered from a degenerative eye disease since birth. Five years ago, he had to take medical retirement from his tool-repair job with Black & Decker. Since then, he's devoted most of his time to wood-working, a challenge for him.

For instance, in his "good" left eye he has 20/700 vision (20/20 is perfect), so Warren wears 10-X magnifiers when sawing. Even so, he manages to make about eight toys a week, selling some at craft fairs. But mostly he builds toys to give away.

Before Warren started making toys, he felt a bit differently about life. Depression had driven him to despair. Now, thoughts of a child's face radiating joy over a wooden toy give him a new outlook. "I feel lucky," he says. "Christmas happens every day."

**Do you know a subscriber who makes a difference? Send details to: Front & Center, WOOD Magazine, 1912 Grand Ave., Des Moines, IA 50309-3379.**

## FREQUENT FIRES MEAN LESS FUEL

Before Europeans arrived with their culture, every acre of trees in California burned once in 20 years on the average, according to the *Forestreet News*.

But, due to this frequency, wildfires were less intense and less damaging than those of today because they kept down the buildup of dead material. 🌲

# NOW! PLANE, MOLD, SAND and SAW with

## Infinitely Variable Power-Feed!

**MAKES YOU MONEY... SAVES YOU MONEY!**

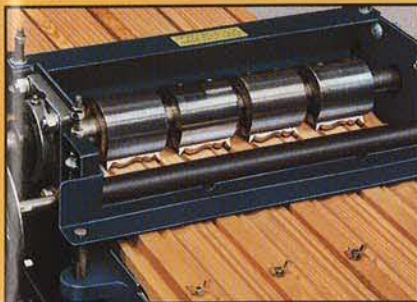
Put this versatile power-feed tool to work in your shop... see how fast it pays for itself! Quickly converts low-cost rough lumber into valuable finished stock. Turns out perfect picture frame moldings, quarter-round, casing, tongue and groove... all popular patterns... any custom design.

✔ **Just a twist of the dial** puts twice as many cuts-per-inch at your fingertips as any comparable planer – from 70 to over 1,000 CPI! This heavy-duty machine will sail through even the toughest oak at higher speeds, or you can slow it down to handle those “hard-to-work” pieces like curly maple, knotty cedar, burls, knees and much more! A valuable feature for molding work, where profiles make sanding impossible.

✔ **Change to Molding, Sanding or Sawing in just minutes!** Unique “Morse-Taper” Quick Change Cutterhead guarantees fast changeover... bearings remain factory set... precisely aligned at all times.

✔ **Now choose from three powerful models!** Woodmaster introduces the first 18" and 25" Planer/Molders... with all the features that have made the 12" model the most versatile Planer/Molder on the market! Send for Free Facts today!

**FREE 30-DAY TRIAL!**



Woodmaster's Quick-Change Molding Head lets you create custom moldings from any stock. Choose from over 250 standard trim and picture frame patterns... or design your own!



Power-fed sanding speeds production and improves the quality of your work. No more waves or cross-grain scratches. Separate sanding head installs in just minutes.



New rip saw attachment lets you gang-rip with power feed in a fraction of the time it takes for multiple hand-fed passes on an ordinary table saw.

**MAIL TODAY OR CALL**  
1-800-821-6651 Ext PW63



**YES!** Please rush me your FREE Information Kit plus details on your 30-DAY FREE TRIAL GUARANTEE!

Woodmaster Tools, Dept. PW63, 1431 N. Topping, Kansas City, MO 64120

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE ( ) \_\_\_\_\_

### Here's What Woodmaster Owners Say:

**Shop Test Results**—"It does an excellent job of planing, on a par with more expensive machines, and even better than some commercial models."

*Editor, Workbench Magazine*

**Best Value**—"After checking them all, Woodmaster was obviously the best deal for the money. Also, I would like to acknowledge the polite and prompt service."

*E. D. Holtz, North Carolina*



**10" TABLE SAW**

**\*EN-TB10**

- 1-1/2HP 110/220V
- CAST IRON TABLE

REG: \$350.00

**SPECIAL: \$335.00**



**10" HEAVY DUTY TABLE SAW**

**\*EN-HTB10**

- 3HP 220V
- TRIPLE V BELT DRIVE, 5/8" ARBOR
- SOLID CAST IRON TABLE+WINGS
- PRECISION FENCE + MITRE GAUGE

REG: \$1,190.00

**SPECIAL: \$1,135.00**



**12" PLANER**

**EN-PN12**

- 2HP 16 AMPS 110V 16,000 CPM
- 2 BLADE CUTTERHEAD
- 26.2 FPM FEED RATE

REG: \$380.00

**SPECIAL: \$355.00**



**15" PLANER**

**\*EN-PN15**

- 2HP 110/220V 15 AMPS 220V
- 2 SPEEDS, 13,500 CPM
- 3 BLADE CUTTERHEAD
- STAND INCLUDED

**PRICE: \$795.00**

SHIPPING WAREHOUSE/ SERVICE CENTER  
12 ARMORY ROAD, CLARKSBURG, WV 26301  
HOURS: E.T. MON-FRI 8:00AM- 5:00PM



**WOOD SHAPER**

**\*EN-WS05**

- 1HP 16 AMPS 110V
- REVERSIBLE MOTOR
- CAST IRON TABLE
- 1/2" SPINDLE

REG: \$280.00

**SPECIAL: \$265.00**



**22" SCROLL SAW**

**EN-SC22**

- 1/8HP MOTOR
- SINGLE SPEED 1,725 SPM
- 22" THROAT, 2" MAX CUT

REG: \$150.00

**SPECIAL: \$145.00**



**HEAVY DUTY WOOD SHAPER**

**\*EN-WS10**

- 3HP 22 AMPS 220V
- 3/4"+1" SPINDLES
- 3" SPINDLE TRAVEL
- (1/2" SPINDLE AVAILABLE)

REG: \$860.00

**SPECIAL: \$845.00**

SHOWROOM/ HEADQUARTERS  
19400 E. SAN JOSE AVE.  
CITY OF INDUSTRY, CA 91748  
TEL: (909) 468-3688 FAX: (909) 468-3689  
HOURS: P.T. MON-SAT 8:00 AM-5:00PM

# ENLON™

## ORDERS 1-800-888-9697

Pacific Time: Mon-Sat 7:00am to 5:00 pm



**3HP. DUST COLLECTOR**

**\*EN-DC30**

- 3 HP 220 V 22AMPS
- 1850 CFM
- INTAKE HOLES: 3 @4"

REG: \$455.00

**SPECIAL: \$450.00**



**16" BAND SAW**

**\*EN-BS16**

- 1-1/2 HP 110/220V 3 SPEEDS
- CAST IRON TABLE
- RIP FENCE & MITRE GAUGE INCLUDED

REG: \$520.00

**SPECIAL: \$490.00**

**18" HEAVY DUTY BAND SAW**

**\*EN-BS18S**

PRICE: \$645.00



**18" SUPER HEAVY DUTY BAND SAW**

**\*EN-BS18**

- 2HP 110/220V 11 AMPS 220V
- 3,300 FPM BLADE SPEED
- RIP FENCE & MITRE GAUGE INCLUDED

REG: \$910.00

**SPECIAL: \$880.00**



**6" X 9" BELT/DISC SANDER**

**\*EN-SN69**

- 3/4 HP 110/220 V
- 6" X 48" BELT 9" DISC
- TABLE TILTS: 0°-45°, BELT: 0°-90°
- WITH GAUGE

REG: \$195.00

**SPECIAL: \$185.00**



**6" JOINTER**

**\*EN-J006**

- 1HP 110/220V 14 AMPS 110V
- CAST IRON TABLE
- 13,500 CPM
- 3 BLADE CUTTERHEAD

REG: \$340.00

**SPECIAL: \$300.00**

**8" HEAVY DUTY JOINTER**

**\*EN-J008**

REG: \$675.00

**SPECIAL: \$635.00**



**WELCOME TO OUR SHOWROOM**

Call for free catalog.

Prices are subject to change without notice.

\* F.O.B. CITY OF INDUSTRY, CA or CLARKSBURG, WV

