

Better Homes and Gardens®

WOOD

®

THE MAGAZINE FOR HOME WOODWORKERS

\$3.95

FEBRUARY 1989 • ISSUE NO. 27
Display until February 14

**LOW-RELIEF CARVING
STEP-BY-STEP**
Shop-tested instructions
guarantee your success

**WE TEST PORTABLE
CIRCULAR SAWS**
Match a model with your
projects and pocketbook

**STAIN-RESIST FINISH
LOOKS TERRIFIC**
Try this technique
to create an antique look

INVITING PROJECTS
Country bench
Charming cupboard
Recipe-card box
2 old-time toy trucks
Box-joint jig
Contemporary lamp
Perfume decanter



... FOR YOU TO BUILD

AFTER 49,500 FEET, DYANITE LEAVES ANY OTHER BLADE IN THE DUST.

DYANITE

Carbide Teeth



Vermont American introduces the Dyanite™ blade.

The blade so sharp, it has ripped through more than 49,500 board feet of particle board and is still cutting smoothly. So resilient, it keeps on cutting up to *ten times* longer than a standard carbide blade, without resharpening. Science fiction? Hardly. Dyanite is a patent pending carbide formulation from Vermont American. It cuts up to ten times longer than any other carbide. Greater resilience to high cutting temperatures.

Prove it to yourself. Test our Dyanite Speed Framer or Dyanite Speed Combo against your favorite blade.



Computer designed to cut faster than any blades of their class. Wherever the pros buy hardware. But get ready to work for a long, long time.

P.O. Box 340 • Lincolnton, N.C. 28093-0340 • (704) 735-7465

**NOW!
REDUCE THE
RISK AT YOUR
TABLE SAW**



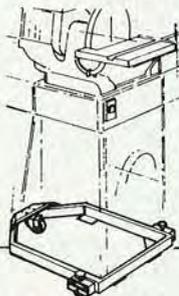
folds down neatly

WITH THE NEW MOBILE™ SAWING CENTER

OUTFEED ROLLERS

- safe, accurate sawing
- handle panels with ease
- available in 15" and 37" widths
- dual-position table

AND INCREASE FLOOR SPACE

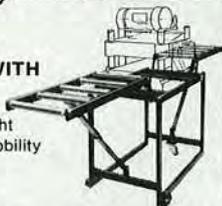


MOBILE MACHINE BASES

- increase shop working area
- maximize usable floor space
- 3 point base will not rock
- locking wheels
- makes machine so easy to use and store
- over 80 standard models

PLANER STAND WITH ROLLERS

- raises planer to proper working height
- provides machine mobility
- five-fold increase in workpiece support
- storage is a snap



NEW



ROLLERTABLE Rock Solid Support

- adjustable
- portable
- use at any machine

PEDESTAL ROLLER

Discover HTC's many unique products designed only with you, the dedicated woodworker in mind. Find out how you can make your machining safer, increase working area of your shop and accomplish nearly impossible tasks easily, quickly and accurately - **all by yourself!**

CALL TODAY!

HTC PRODUCTS, INC.
120 E. HUDSON S-8
ROYAL OAK, MI 48067
(313) 399-6185



1-800-624-2027 ext. 108

Better Homes and Gardens®

WOOD®

THE WORLD'S #1 WOODWORKING PUBLICATION

This issue's cover wood grain: ponderosa pine

FEBRUARY 1989

ISSUE NO. 27

WOOD PROFILE

KOA: HAWAII'S HARDWOOD SOLDIER OF THE SEA 35

Once primarily used for outrigger canoes, koa—found only in our 50th state—now finds its way into furniture, sculpture, and yes, ukuleles.



SHOP-TESTED TECHNIQUES

STEP-BY-STEP RELIEF CARVING 36

This article has it all—carving basics to get you started, a fantastic grape-and-leaf design, and up-close, detail photographs to learn from. Carving has never been easier!



CRAFTSMAN CLOSE-UP

DON ADAMS, A MASTER BOWYER ROBIN HOOD WOULD HAVE LOVED 42

Why, in the Queen's name, would the Scottish Royal Company of Guards wait two years for longbows made in Oregon? Our featured craftsman has a band of loyal supporters who seek him out for authentic yew bows.



TRY STAIN-RESIST FINISHING FOR AN IRRESISTIBLE COUNTRY LOOK 46

Thanks to an enterprising Texas reader, we can share a terrific staining and finishing technique that will add distinctive accents to your country projects.



THE ACCURATE BOX-JOINT JIG 48

You'll marvel at how easily you can crank out finger joints with a jig designed by a Wisconsin dairyman.

OLD-HAND WAYS

ISHI: A LIVING WINDOW TO INDIAN CRAFTSMANSHIP 51

In 1911, archaeologists got a rare firsthand look at Stone-Age woodworking when a primitive Indian stumbled into California civilization.



KING CHERRY 52

The world's finest hardwood cherry thrives in Pennsylvania—at least for now. But today's foresters worry while deer nibble away at tomorrow's trees.

TORCHÈRE EXTRAORDINAIRE 58

In French, *torchère* means torch holder. In your home, our walnut-and-oak lamp means a distinctive way to light up a dark, uninspiring corner.



TURNING PATTERN PERFUME DECANTER 63

An Oregon wood merchant has smelled success more than 10,000 times with stylish variations of hardwood perfume vials.

TOOL BUYMANSHIP PORTABLE CIRCULAR SAWS 64

We looked at 20 models of portable circular saws and found a wide variety of sizes and features to choose from.



SHOP SKILLS PUT A SUPER-FINE EDGE ON YOUR CARVING TOOLS 70

Learn how to make and use a strop—the same tool experienced carvers value to shave a lot of time and effort from their projects.

COUNTRY CRAFTS SAMPLER A COMFY COUNTRY BENCH 72

Doweled joinery and heart cutouts accent this bench that sits as comfortable as it looks—and won't bruise your pocketbook, either.



CHARMING CABINET 76

Put our new stain-resist technique to good use to personalize this cabinet—you can build it for under \$20.



ALL THE RIGHT INGREDIENTS 78

Finger joints accent a recipe box that we predict will find its way into many kitchens.



COUNTRY COUSINS 80

With our full-sized patterns, you can build models of yesteryear's milk truck and pickup.



SHORT FEATURES

Editor's Angle	6	Design-A-Toy Rules	33
Talking Back	10	Wood Anecdote	85
Tips From Your Shop (And Ours)	14	Ask WOOD	89
Products That Perform	24	3M's Safest Stripper	91
		Tool Industry Insider	92
Finishing Touches	116		

SPRING SALE!

RYOBI

DELTA



AP-10 Portable Planer \$338

- RE600 3hp VS plunge router 198
- RA200 8-1/4" port. radial saw 238
- R500 2-1/4hp plunge router 158
- R501 2-1/4hp plunge router 158
- BE321 3X21VS belt sander 118
- JP-155 6-1/8" jointer planer 348
- TS251U 10"mitersaw w/acoykit 198

28-283* 14" Enclosed Band Saw w/rip fence \$599



- 34-444 10" contr. saw compl. 599
- 33-990 10" radial arm saw 599
- 33-150 8-1/4" Sawbuck 498
- 34-670 10" motorized table saw 329
- 50-179 3/4hp dust coll. w/drum 349

* Price includes rebate.
18" V.S. Scroll Saw \$659



BOSCH

4X24 V.S. Belt Sander \$189



- 1273D 4X24 sander w/bag 179
- 1272D 3X24 sander w/bag 169
- 3270D 3X21 sander w/bag 139

V.S. Top Handle Jig Saw \$124



- 1582VS barrel grip jig saw 119
- 1632VSK VS recip. saw w/case 129
- 1654 7-1/4" saw w/c.t. blade 99
- 3258 3-1/4" power plane 139

3 HP Plunge Router \$195



- 1604 1-3/4 hp router 119
- 1609K 3 in 1 trimmer kit 169
- 921VSRK 9.6V cordless w/clutch 139

40-601

- 40-150 15" bench scroll saw 139
- 23-700 wet/dry grinder 139
- 28-160 10" 3-wheel band saw 139
- 31-460 4" belt/6" disc sander 139
- 31-050 1X30 belt sander 69

BIESEMEYER

50" Commercial \$290



- 52B 52" homeshop fence 229
- 40B 40" homeshop fence 209
- 28B 28" homeshop fence 199

LEI

24" Dovetail Jig \$279



- D1258-12R 12" dovetail jig 249

freud

Elu

2-1/4 HP Electronic Plunge Router \$269



- 3304 1 hp. elec. plunge router 199
- 3375 3-1/8" universal planer 209
- 3380 jointer/spliner 349

Jointing System w/ case \$154



- JS100
- F8-100 16pc Forstner bit set 159
- 90-100 15pc router bit set 159
- 91-100 13pc 1/2" router bit set 199
- 94-100 5pc router cabinet set 159
- EC-900 5pc shaper cabinet set 279

PORTER-CABLE

Makita

3/8" V.S.R. Cordless Drill Kit \$128



- 6093DW
- 3612BR 3hp rd. base router 199
- LS1020 10" miter saw 249
- 410 dust collector 269

Plate Joiner With Case \$159



- 555
- 352 3X21 sander w/bag 119
- 360 3X24 sander w/bag 179
- 362 4X24 sander w/bag 189
- 330 Speed Bloc finish sander 59
- 505 1/2 sheet finish sander 109
- 503 3X24 wormdrive w/bag 335

Milwaukee

V.S. Sawzall w/ case \$129



- 6507
- 6368 7-1/4" saw w/case, ct blade 129
- 0234-1 1/2 VSR Magnum drill 108
- 0222-1 3/8 VSR 3.5 A drill 99
- 5397-1 3/8 hammer drill kit 139

Saw Boss \$95



- 9647 Tiger Cub w/ case 119
- 9629 VS Tiger saw w/case 135
- 7548 VS top-handle jig saw 119
- 9118 Porta-Plane w/c cutter 189
- 7511 3/8" VSR drill 109

Mill-Route

Mill-Route \$279



- MR1/MR-R1
- 691 1-1/2hp D-handle router 129
- 518 3hp 5-speed router 319
- 696 router shaper table 109
- 9850 12 V. cordless drill kit 279
- 5116 Omni-Jig 129

a c m e Electric

TOOL CRIB OF THE NORTH SINCE 1948

CALL TOLL FREE FOR MIKE OR TOM
1-800-358-3096

Box 1716 • Grand Forks, ND • 58206
Send \$2.00 For 120 Page Catalog



THE SANDER WITH WIDE APPEAL



Performax S/T
Sander mounted on
Pro-Stand with
Power Feed Option

Performax S/T Sander
mounted on Radial Saw
With Power Feed Option



Made In
U.S.A.

44" TO BE PRECISE

Uniform thickness accuracy to within .010 of an inch—precision that you almost have to see to believe. Or take the word of thousands of woodworkers who are achieving flawless sanding results in their cabinet shops, craft shops, home workshops, custom furniture shops and in musical instrument making.

The Performax Component Sander appeals to such a wide variety of woodworkers because it allows you to select the components to fit your needs now with retrofitting options for potential heavier use later.

Plus, your sanding width won't ever be limited with the 44" wide sanding capacity, due to the open-end design of the Performax S/T Sander, which is just one of the many innovative features that makes the Performax Component Sander a wise investment and an excellent choice for all types of woodworking.

For More Information or the Dealer Nearest You

Call 1-800-334-4910 or Write to:



PERFORMAX Woodworking Tools Designed For
Maximum Performance
PRODUCTS, INC. Maximum Value

11975 Portland Ave. S., Suite 142, Burnsville, MN 55337

Better Homes and Gardens®

WOOD®

THE MAGAZINE FOR HOME WOODWORKERS

February 1989 • Vol. 6, No. 1 • Issue No. 27

Editorial/Art Staff

Editor **LARRY CLAYTON**
Managing Editor **CARL VOSS**
Art Director **C. L. GATZKE**
Design Editor **JAMES R. DOWNING**
Features Editor **PETER J. STEPHANO**
How-To Editor **MARLEN KEMMET**
Products/Techniques Editor **BILL KRIER**
Project Builder **JAMES E. BOELLING**
Senior Graphic Designer **PERRY A. MCFARLIN**
Administrative Assistant **DARLENE REYNOLDS**
Business Office Clerk **JODI DOWNING**

Technical Consultants: Product Testing **GEORGE GRANSETH**;
Wood Technology **PAUL L. McCLURE**; Collectible Tools
PHILIP WHITBY

Publisher **JERRY KAPLAN**

National Advertising Manager **TERRY McINTYRE**
Advertising Representatives **ANTHONY IMPERATO**,
ROBERT NEWKIRCHEN, **JASON B. WEINGER**
Promotion/Research Director **THOMAS R. TROLAND**
Marketing Services Manager **NANCY DALY**
Circulation Director **CLEM SEVDE**
Circulation Manager **BILL REED**
Newsstand Circulation Director **MICHAEL SENIOR**
Production Director **ROBERT C. FURSTENAU**
Editorial Research Director **C. RAY DEATON**

Weekend Woodworking Projects™

Managing Editor **JIM HARROLD**

Magazine Group Officers

Group President **JAMES A. AUTRY**
Group Vice Presidents: Publishing Directors **ADOLPH AUER-**
BACHER, **MYRNA BLYTH**, **BURTON H. BOERSMA**,
CHRISTOPHER M. LEHMAN; Controller **MAX RUNCIMAN**;
Editorial Director **DORIS EB**; Operations **DEAN PIETERS**

Chairman of Executive Committee **E. T. MEREDITH III**

Corporate Officers

Chairman of the Board **ROBERT A. BURNETT**
President **JACK D. REHM**
Group Presidents: Book **JERAMY LANIGAN**; Broadcasting **WIL-**
LIAM McREYNOLDS; Magazine **JAMES A. AUTRY**; Real
Estate **ALLEN SABBAG**
Vice Presidents: Administrative Services **GERALD D. THORN-**
TON; Corporate Relations **LEO R. ARMATIS**; Finance
JAMES F. STACK; General Counsel and Secretary **THOMAS**
G. FISHER; Product Development **NEIL KUEHN**
Treasurer **MICHAEL A. SELL**
Controller and Assistant Secretary **LARRY D. HARTSOOK**

Better Homes and Gardens® WOOD® — the magazine for home woodworkers (ISSN-0743-894X) is published bimonthly in February, April, June, August, October, and December by Meredith Corporation, Locust at 17th, Des Moines, IA 50336. Second-class postage paid at Des Moines, Iowa. Better Homes and Gardens trademark registered in Canada and Australia. Marca Registrada en Mexico. ONE-YEAR SUBSCRIPTION PRICES: United States and its possessions, \$18; Canada, \$24; other countries, \$30. POSTMASTER: Send address changes to WOOD, Locust at 17th, Des Moines, IA 50336. February 1989, Vol. 6 No. 1, Issue No. 27. CUSTOMER SERVICE: For service on your magazine subscriptions, including change of address, write to Customer Service Manager **ROBERT AUSTIN**, P.O. Box 10628, Des Moines, IA 50336. Please enclose your address label from a recent issue. If you wish to phone, call toll-free 1-800-678-2666. ©COPYRIGHT MEREDITH CORPORATION 1988. ALL RIGHTS RESERVED. PRINTED IN U.S.A.



Go on, cut. You'll be brilliant. Armstrong guarantees it.

Install your new Armstrong sheet vinyl floor with a Trim and Fit™ kit, and if you goof while cutting or fitting, your Armstrong retailer will replace both the flooring and the kit. Free. That's the Fail-Safe™ Guarantee. Just see your local home center or building supply retailer for details.



For the name of your nearest Trim and Fit retailer and a free Floor Project Planning Pack, call

1 800 233-3823

toll-free between 9:00 a.m. and 8:00 p.m., Mon. thru Fri., E.S.T. Ask for Dept. 91GWD

If you'd like only the Planning Pack, write: Armstrong, Dept. 91GWD, P.O. Box 3001, Lancaster, PA 17604.

Armstrong
makes your home
so nice to come home toSM

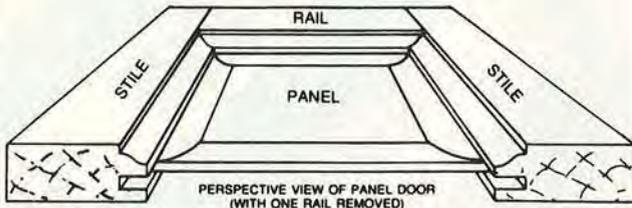
MAKE BEAUTIFUL RAISED PANEL DOORS . . . WITH YOUR 1/4" ROUTER!

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.

Regular value Over \$150.00

SALE PRICE **\$69⁹⁵** FOR COMPLETE SET

ORDER ITEM #054 for 1/4" Shank Set
(Includes all bits shown)



RAISED PANEL BIT
SUPPLIED WITH
BALL BEARING

2" Large Diameter

CARBIDE TIPPED
1/4" Shank



**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 — TWO FLUTE
1/4" SHANK
supplied with Ball Bearing

To order by Mastercard or Visa Toll Free
7 Day—24 Hour Order Service, Call
1-800-533-9298

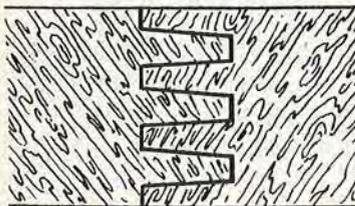
or send check to: MLCS, Ltd., P.O. Box 4053D, Rydal, PA 19046

FINGER JOINT ROUTER BIT #161

a professional production quality bit makes better edge and end grain joints by increasing the glue surface area

- Ideal for joining particle and composition board, as well as solid wood
- Makes super strong mitre joints
- Replaces mortise and tenon in many cases
- Quick and accurate set ups
- Joins 1/2" — 1" in one pass; 1" and up with multiple passes

FULL SCALE



Three 3-wing carbide cutters on arbor

Actual Size
Bit #161
1/2" Shank

- The 3 cutters have 1/2" bore and can be used on a shaper with 1/2" spindle.
- An additional cutter can also be added to the arbor for use on a router
- Individual cutters cost \$20.00 each
Order #161-C for cutter only



To order by Master Charge or Visa Toll Free
7 Day — 24 Hour Order Service, Call
1-800-533-9298 or send check to:
MLCS Ltd., P.O. Box 4053D, Rydal, PA 19046

THE EDITOR'S ANGLE



SERVICE WITH A SMILE... YOU BET!

Staffers Darlene Reynolds and Jodi Downing trying to get control of yet another tidal wave of requests for project patterns and drill-press speed charts.

It's amazing how many people don't understand the value of good customer service. If you're like me,

sometimes you feel exceptionally lucky when you happen onto a sales clerk, a parking garage attendant, or another member of the service industry who acts like it's a pleasure doing business with you. Is it any wonder that some businesses have trouble showing a profit today? I don't think so.

Here at *WOOD*® magazine, we know that just providing you with an informative, entertaining product isn't nearly enough. It never has been! We know that we also must give you the very best service—from answering your questions about the material in the magazine to helping you deal with an occasional mix-up in the timing of your subscription renewal notice—to keep you as one of our valued readers. And it's our pleasure to serve you. In fact, it's that "we'll do anything to make our readers satisfied" attitude that I think makes our staff so special. Please allow me to share one example that shows how serious we are about serving your needs well.

For well over a year now, we have been offering you lots of "little extras" in *WOOD* magazine—primarily full-sized plans for various projects and most recently our drill-press speed chart. Why? Because you deserve the very best we can give—even though it creates extra work for us. That's why I'd like to tip my hat to two of *WOOD* magazine's finest—Darlene Reynolds, our Administrative Assistant, and Jodi Downing, our Business Office Clerk. In addition to doing a great job with their other secretarial chores, these exceptionally good sports have orchestrated the fulfillment of all those patterns and drill-press speed charts you readers have requested—more than 26,000 to date.

Thanks, ladies, for going the extra mile for our readers—and doing it cheerfully. I know they appreciate it as much as we do. 🌲

Print this article

Larry Clayton

Thin Kerf. Advanced Design.

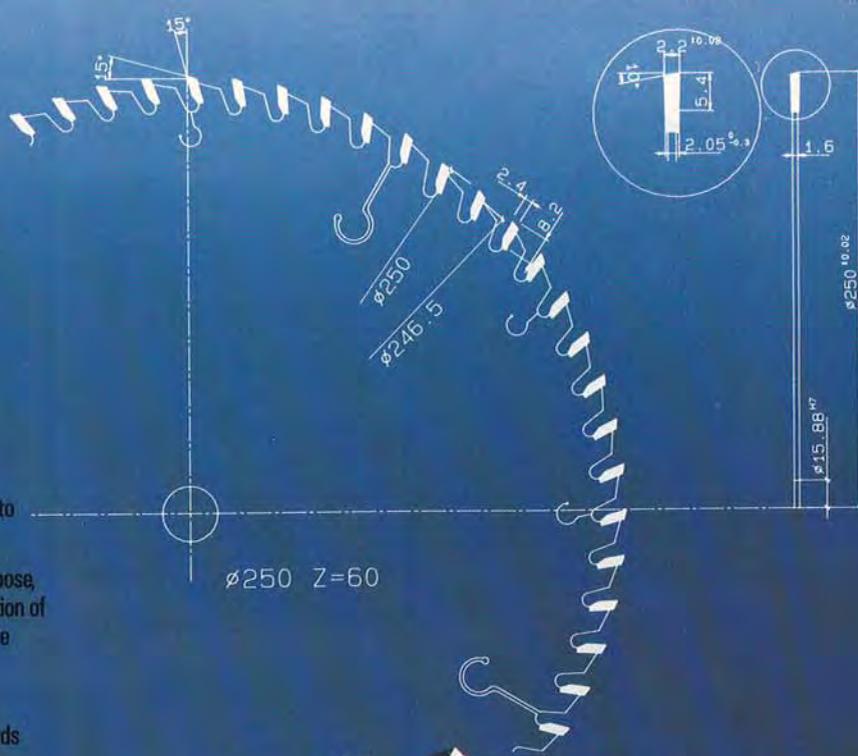
The Freud Difference

Superior Carbide. Some of the physical properties of carbide, elasticity, hardness and resistance to chemicals, can be changed to meet cutting requirements.

To ensure the blade you buy has the best carbide qualities for its purpose, Freud produces special blends at its own factory. Through a combination of robotic and computer monitoring, each batch is checked to assure purity and quality.

Advanced CAD System. The Computer-Aided Design System simulates actual cutting conditions in three dimensions and records the blade performance. This allows Freud engineers to electronically vary the material being cut and the blade's physical characteristics to develop saw blades that provide optimum cutting performance.

Laser Technology. A computer-controlled, 500-watt laser is used in the production of Freud cutting tools. The concentrated beam of light creates a perfectly round blade, produces shoulders identical in shape and size and precisely centers the arbor hole. In addition, expansion slots are strategically placed to allow for heat dissipation during brazing and blade body expansion during actual use.



Freud Perfects the Thin Kerf Blade.

Using advanced technology, Freud's international team of European and North American engineers have perfected the thin kerf saw blade. They have eliminated misaligned teeth, poor blade body tensioning, carbide chipping and a variety of other problems common with some thin kerf blades.

The kerf on the Freud 10-inch crosscut blade, 28% thinner than the standard .126 inch kerf blade, reduces material loss when working with rare or expensive wood.

Freud's thin kerf blade also requires less energy to feed the material into the saw blade, eases the strain on your power tool and makes your work easier and safer.

Turn your under-powered saw into a real board cutting champion with Freud's thin kerf blade. Each thin tooth takes out less wood than the standard carbide blade, thus requiring less horsepower to produce equally good results. Also, the radial arm saw's aggressive self-feeding characteristics are virtually eliminated.

For the best value in advanced thin kerf blade technology, demand Freud.

Stock Number	Thin Kerf Rip	Kerf	Suggested Retail
LW87M008	8" x 22 x 5/8"	.086 inch	\$49.00
LW87M009	9" x 22 x 5/8"	.094 inch	\$54.00
LW87M010	10" x 24 x 5/8"	.094 inch	\$56.90
Stock Number	Thin Kerf Crosscut	Kerf	Suggested Retail
LW88M008	8" x 48 x 5/8"	.082 inch	\$59.90
LW88M009	9" x 54 x 5/8"	.090 inch	\$63.90
LW88M010	10" x 60 x 5/8"	.090 inch	\$69.90

Call for the name of your local distributor:



Thin kerf blade compared to standard kerf blade



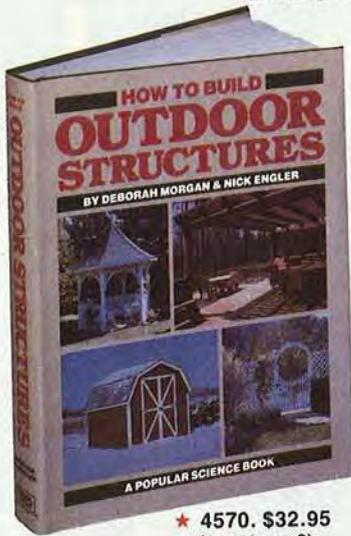
Freud thin kerf blades
Rip (left), Crosscut (right)

freud®

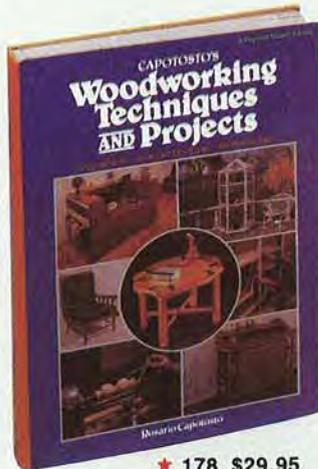
Freud Inc.
218 Feld Ave.
High Point, NC 27264
(919) 434-3171

The Number One Do-It-Yourself Book Club

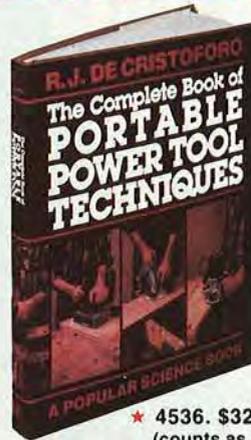
Take any



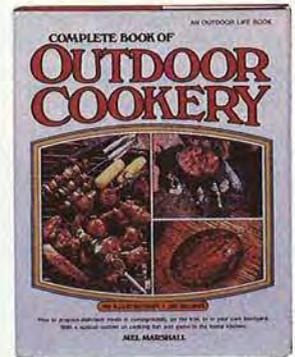
★ 4570. \$32.95
(counts as 2)



★ 178. \$29.95



★ 4536. \$32.95
(counts as 2)

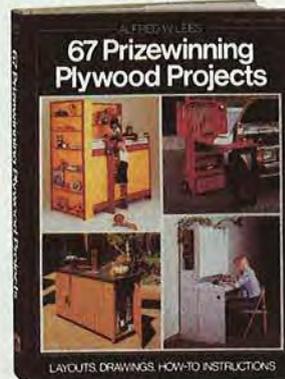


★ 166. \$26.50

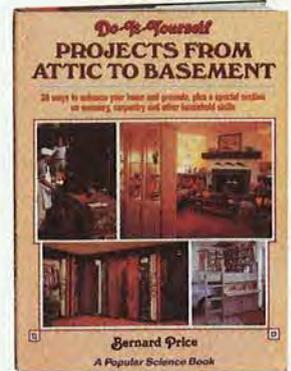
Popular Science

BOOK CLUB

A Service of Grolier Book Clubs, Inc.
P.O. Box 1767, Danbury, CT 06816



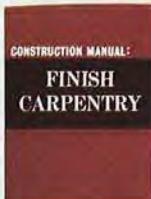
★ 4501. \$27.95
(counts as 2)



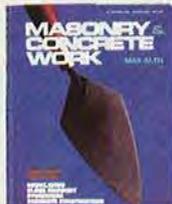
★ 4508. \$29.95



5821. \$39.95



5753. \$11.95



★ 89. \$19.95



★ 97. \$19.95



★ 105. \$17.95



5994. \$19.95



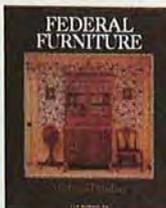
★ 113. \$15.95



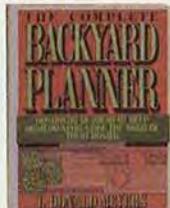
★ 1978. \$17.85 Paperbound



3 Books—count as 1



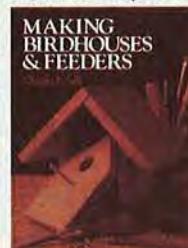
6085. \$24.95



6056. \$17.50



5831. \$19.95



6041. \$16.95

Mail card today!

The #1 DO-IT-YOURSELF BOOK CLUB

The Best How-To Authority... Popular Science Book Club is the largest and oldest special-interest book club serving successful do-it-yourselfers for more than 25 years!

The Best Do-It-Yourself Books... PSBC editors comb the country searching for the newest, finest and often hard-to-find books on today's important homeowner subjects: HOME REPAIR & IMPROVEMENT • HOME REMODELING, RENOVATION • RESIDENTIAL CARPENTRY • BASIC & ADVANCED WOODWORKING • HOME WORKSHOPS • HOUSE BUILDING • HOUSE WIRING, PLUMBING, HEATING, MASONRY & CONCRETE • APPLIANCE REPAIR and much more.

Exclusive "Popular Science Books"... PSBC serves its members best by commissioning the top how-to writers-photographers to produce definitive books on important Club subjects. See titles with ★. These are cream-of-the-crop, do-it-yourself books available nowhere else at Club discount.

Big Bargains—UP TO 75% DISCOUNT... PSBC cuts prices on hundreds of special book bargains offered throughout the year to the membership.

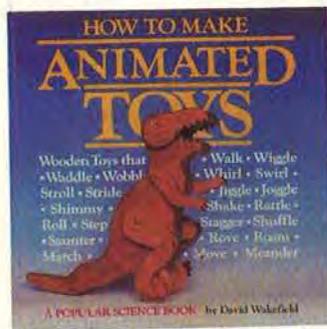
Quality Production Control... PSBC selections are printed with careful attention to detail on paper, printing, binding. You'll use these books for years!

NO-RISK GUARANTEE... PSBC guarantees your complete satisfaction—or you may return the books at our expense.

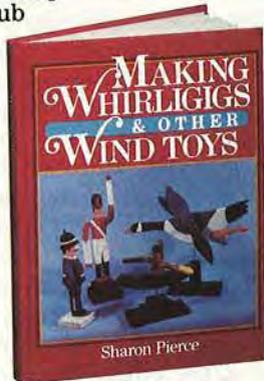
offers you super savings up to \$104.90!

3 for just \$4.95 Values up to \$109.95!

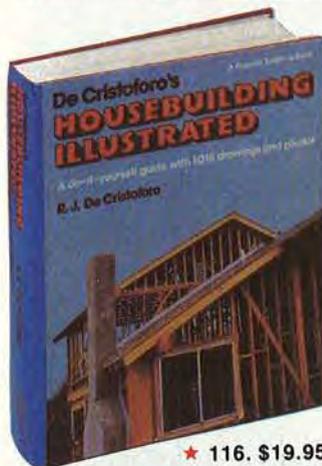
with No-Risk Free Trial Membership
in Popular Science Book Club



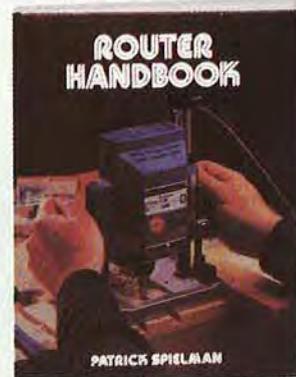
★ 4538. \$29.95 (counts as 2)



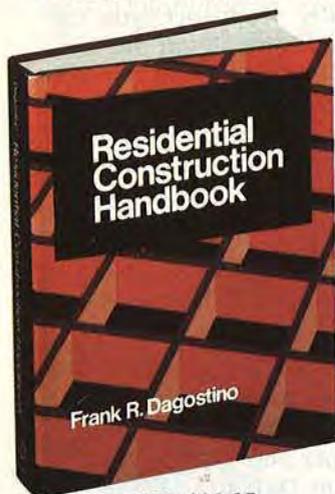
6027. \$16.95



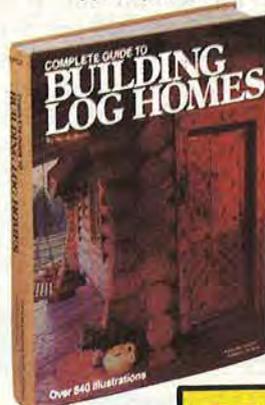
★ 116. \$19.95



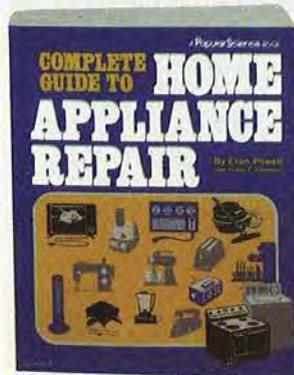
5878. \$21.95



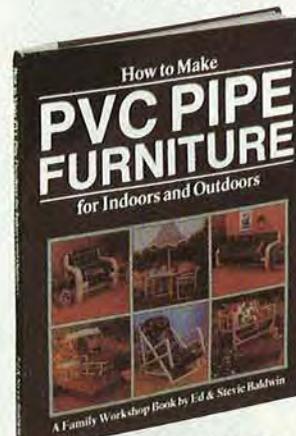
5858. \$39.95



★ 190. \$29.95 (counts as 2)

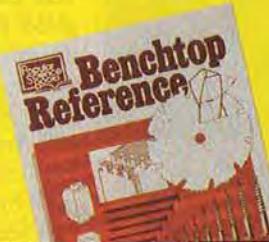


★ 4569. \$14.95 Paperbound



6002. \$14.95

FREE when you join



The **BENCHTOP REFERENCE** gives you instant answers to hundreds of do-it-yourself questions on Woodworking, Joinery, Dowels, Veneers, Laminates, Fasteners, Sharpening, Grinding, Concrete, Electrical work, more! 48 big 8 x 10 3/4 pages. All illustrated! Super handy and indispensable.

HOW Popular Science BOOK CLUB WORKS

ENJOY SAVINGS UP TO \$104.90 NOW... When you take any 3 selections here for just \$4.95 plus delivery and handling. Simply indicate your choices on the attached postage-free card and mail.

CLUB MEMBERS' BULLETINS... Fifteen times a year (about every 4 weeks), you'll receive a Club Members' Bulletin package describing the coming Main Selection and nearly 100 additional books you may choose from. If you want the Main Selection only, do nothing; it will be sent to you automatically. If you want another book—or no book—indicate your wishes on the form provided and return by date shown. You will always have at least 10 days to do this. Should the bulletin arrive late and you receive an unwanted selection, you may return it at our expense.

UP TO 75% DISCOUNTS... Club prices range from \$5.99 for special book bargains offered at super savings up to 75% and even more... all the way to richly-produced, very special books that list as high as \$50 and more—all offered to members at exclusive Club discounts.

FREE GIFT with cancellation privilege... You may cancel your membership at any time after buying just two more selections of your choice within a year. To try us with no obligation, simply mail the attached card—a valuable FREE GIFT is yours to keep just for looking. Mail the card now!

PS/S91D



3 Books—count as 1

★ 1988. \$17.85 Paperbound



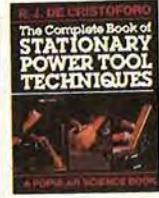
5985. \$17.95



★ 109. \$15.00



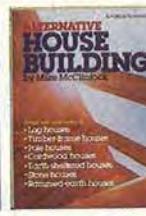
5882. \$19.95



★ 84. \$31.95 (counts as 2)



6176. \$19.95



★ 194. \$32.95 (counts as 2)



6033. \$27.95 (counts as 2)



Sculptured Panel

NEED AN EASY WAY OUT OF A TIGHT SPOT?

With an Armstrong Fiberglass suspended ceiling, you don't have to give up much headroom. The flexible panels fit easily into the grid with only two inches to spare. All are acoustical and fire-retardant, and you can choose thicker panels that help insulate, too.

For free literature, including "49 Armstrong Ceiling Solutions," and the name of a nearby Armstrong retailer, call 1 800 233-3823, and ask for Dept. 91RWO. Or write to: Armstrong, Dept. 91RWO, P.O. Box 3001, Lancaster, PA 17604.

Armstrong
makes your home
so nice to come home toSM

TALKING BACK

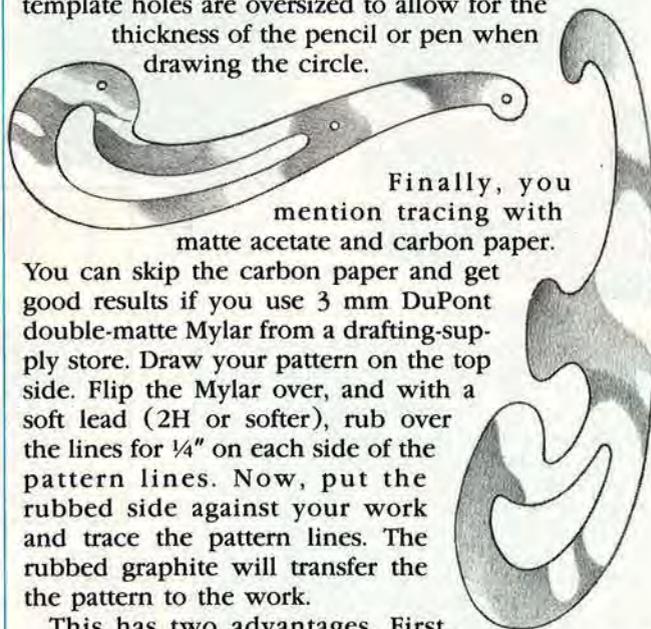
We welcome comments, criticisms, suggestions, and even an occasional compliment. The volume of mail we receive makes it impossible to answer every letter, but we promise to do our best. Send your correspondence to: Letters Editor, Better Homes and Gardens® WOOD® Magazine, Locust at 17th, Des Moines, IA 50336.

STRAIGHT TALK ABOUT FRENCH CURVES

I enjoyed the article on layout tools in the October issue of WOOD magazine. Here are three tips that might help other readers when using the tools:

First, you can use french curves to generate curves on both sides of some pieces of work; hence, one side becomes a mirror image of the other. The trick is to repeat the first curve on the second side. If you rub both sides of a french curve with 600-grit wet-or-dry sandpaper, you can pencil the exact curve segment directly on the frosted surface and have no problem when you flip over the tool to get the mirror image.

Second, remember to never use a circle template to gauge things such as holes, dowels, or dull bits. The template holes are oversized to allow for the thickness of the pencil or pen when drawing the circle.



Finally, you mention tracing with matte acetate and carbon paper.

You can skip the carbon paper and get good results if you use 3 mm DuPont double-matte Mylar from a drafting-supply store. Draw your pattern on the top side. Flip the Mylar over, and with a soft lead (2H or softer), rub over the lines for ¼" on each side of the pattern lines. Now, put the rubbed side against your work and trace the pattern lines. The rubbed graphite will transfer the pattern to the work.

This has two advantages. First, you don't have the waxy carbon-paper line to remove—the graphite will come off easily with a plastic eraser. And, you can see the wood-grain patterns of your workpiece since you rubbed graphite only on the lines you wish to transfer.

—Kim Standard, Morrow, Ga.

Jim Downing, our design editor, endorses all three of Kim's ideas. And, you readers must be eager for better patterns. The source we listed in the Buying Guide, Standardblue Artworld in Des Moines, has been flooded with requests for the layout-tool kit.

KUDOS FOR PICTURE-FRAMING ARTICLE

Thank you for using my suggestion for an article on picture framing in your October 1988 issue. Your writer Bill Krier had good advice from consultants Marlene Olson and Glenda Shaw. For the do-it-yourselfer, it was an excellent guide on how to frame correctly.



When one has opened up as many framed items as I have over the past 35 years, and seen what some so-called "professional framers" have done, then one can really see the need for good framing methods such as the ones listed in this article. More and more, people today are framing good art, limited-edition prints, and bits of family history for home decorations. Unfortunately, some people invest in artwork only to find out later that the value has dropped because of bad framing.

I think this was the best article I have seen in a nonart collecting-type of magazine. I think *WOOD* magazine is a good magazine for this article to appear in because many readers make frames and cut mats for their families and their friends.

Thanks again for a well-done article on a needed subject in a well-done magazine. Keep up the good quality and work.

—Richard Osborn, Osbosh, Wis.



BLADES REMAIN SHARP—EVEN WITH POWER OFF

Performing routine maintenance such as waxing, lubricating, and general cleaning can be dangerous even with machines turned OFF. With the power OFF, we may leave our guard down and become somewhat careless. It's an easy trap to fall into.

We must constantly be on the ball while working around our shops. Recently, while waxing my jointer tables, I took what I thought was the proper precaution by unplugging the machine. Imagine my surprise and pain when I sliced my finger as my hand passed over the raised 6" jointer blade that I had neglected to lower.

Here's one additional safety tip. I purposely leave a pair of safety glasses in the way at each stationary power tool so that I have to move the glasses before using the tool. As it works out, my nose happens to be a convenient resting place for these glasses.

—Alan C. Sandler, Garnerville, N.Y.

Well-taken points, Alan. We bet you're not the first person nicked by a nonmoving blade. All razor-sharp power tools demand constant awareness.

Continued on page 12



Pebblewood Tile

**NEED A QUIET PLACE
TO DO YOUR
HOME WORK?**

Equip your home office with an Armstrong acoustical ceiling. It soaks up distracting noise, to make things quieter for you and your family. Adds a professional look, too. And Armstrong tile ceilings are easy to install with our exclusive Easy Up® Tile Installation Kits.

For free literature, including "49 Armstrong Ceiling Solutions," and the name of a nearby Armstrong retailer, call 1 800 233-3823, and ask for Dept. 91RW0. Or write to: Armstrong, Dept. 91RW0, P.O. Box 3001, Lancaster, PA 17604.

Armstrong
makes your home
so nice to come home toSM

A COMMITMENT TO EXCELLENCE

TRANSPOWER ONLY 12" AUTO PLANER
\$350.00

- All sealed ball bearing
- 2 HP. 115 V. motor
- 12.5" max cut width
- 0.2"-6" cut range
- 1/8" max cut depth
- Feed 26 FPM
- 16000 cuts. 8000 RPM
- Stand height 28"
- Machine 22"x12"x16"
- Portable 65 lbs.



Introducing the best 12" auto planer from TRANSPOWER—an industrial planer. Powered to handle big 12"x6" boards. Top quality planing results with a vibration free machine. The husky 14 AMPS motor efficiently transmitting full power to the cutter head to eliminate snipes. Automatic feeders feeding in and out.

ACCESSORIES: STAND • BLADES • VACUUM HOOD

1-800-654-7702 In Walnut (714) 594-0780
P.O. Box 3931 • S. El Monte, CA 91733

TALKING BACK

Continued from page 11

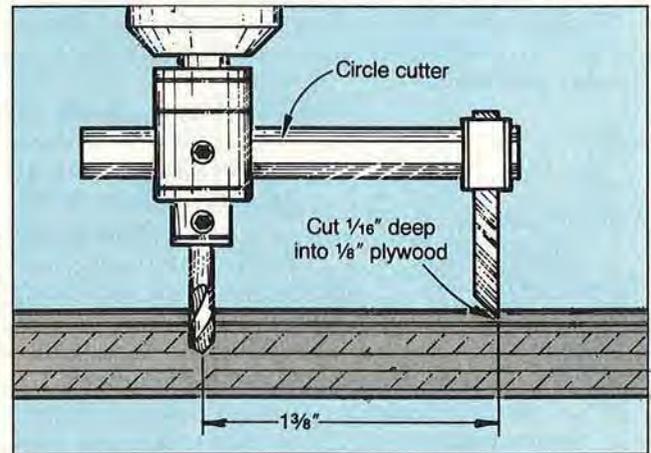
TWO RETAILERS CLOSE THEIR DOORS

Tools-To-Go, a mail-order tool firm, has shut its doors and vacated its building in North Miami Beach, Fla. If you have paid for but not received merchandise ordered from the firm, please contact the Florida Department of Agriculture and Consumer Affairs, Division of Consumer Services, The Mayo Building, Tallahassee, FL 32399.

In "Finishing Touches" in the October 1988 issue of *WOOD* magazine, we mentioned that Mahogany Masterpieces of Suncook, N.H., imported the Swiss-made Reinhard tablesaw. The Small Business Administration and the State of New Hampshire Attorney General's Office have filed actions against the now-defunct corporation and its owner, Robert Major. If you have a complaint against the firm, contact The Office of the Attorney General, 25 Capitol Street, Concord, NH 03301. At the present, we know of no other importers of the \$26,960 Reinhard saw.

FOR A RADIUS, DIVIDE DIAMETER IN TWO

In the Christmas-ornament article on page 68 of the December 1988 issue, a drawing incorrectly showed the 1 3/8" circle radius with a measurement for the circle diameter. The corrected drawing appears below.



BRIAR BY THE BLOCK

The article "Up In Smoke" in your December 1988 issue of *WOOD* magazine was very enlightening to me. I have enjoyed both woodworking and fine pipes for years, but have never combined the two. Where can I buy briar, stems, and other supplies?

—Edward A. Scott, Dyer, Ind.

Sorry about that, Ed. Our intent was to publish a source, as we always try to do. However, in editing the copy, we inadvertently deleted the information. Al Baier suggests obtaining briar and pipe-making supplies from: Pimo, Inc., Dept. BHW, P.O. Box 482, Skokie, IL 60077. Pimo also sells Pimo's Guide to Pipe-Crafting at Home, an 112-page paperback, for \$10.65 ppd. (Illinois residents add 70 cents).

WOODWORKER'S PLANS & PARTS

Heirloom Rocker

Build our classic rocking horse and create a family heirloom which will delight the children in your family for generations to come.



This great rocker sells at craft shows for over \$300.00

Size: 35" x 58"

Plans are Full Size

Order Plan #400
Only \$10.25



This collection of 5 toy vehicles will delight the heart of any youngster lucky enough to own them. They range in size from 12" to 18". Plan set #18004 \$12.75



Door Harp Plans

Set of four award winning Door Harp Plans \$12.50

FULL SIZE PLANS

New Design No Fret Bar



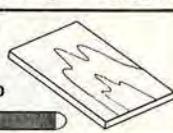
Plans include Stencil Design

Hardware Kit for all four harps (no plywood) \$12.50



Music Wire 25' for \$2.50

Tuning Pins .30 each 100 for \$18.00



Door Harp Plywood Harps require 2 pcs. \$1.00 per piece

Low, low prices on wood parts

Smooth Maple Wood Wheels

Eight Sizes
WT-3/4" \$4.50/100
WT-1" \$5.00/100
WT-1-1/4" \$7.00/100
WT-1-1/2" \$10.00/100
WT-1-3/4" \$15.00/100
WT-2" \$18.00/100
WT-2-1/4" \$5.00/20
WT-2-1/2" \$7.00/20

Axle Pegs
AP-1 fits 1" to 2" \$4.00/100

Full Round Wood Balls
Four Sizes

BA-3/4" \$8.00/100
BA-1" \$10.00/100
BA-1-1/2" 25 each
BA-2" 60 each

Shaker Peg Candle Cup
Reg Peg \$16.00/100
Mini-Peg \$6.00/100
Candle Cup \$16.00/100
Mini-Cup \$7.00/100

Tie Peg \$6.00/100

Shipping add \$2.50. New York Res. add tax.
We accept VISA & MASTERCARD. Phone (516) 462-6228
Armor Products Box 445-L East Northport, NY 11731

Shopsmith helps you build a horse that can survive the "James" gang!



© 1988, Shopsmith, Inc. Shopsmith® is a registered trademark of Shopsmith, Inc.

James and his gang are a bunch of rootin', tootin', tough customers when it comes to their toys. But they're no tougher than these hand-built, solid oak broncos Jimmy's Dad made. They'll take years of hard ridin' on the trails from Abilene to Dodge City!

The Shopsmith® system makes it easy!

With some wood, a bit of time and a Shopsmith MARK V, you can help your own little "pardner" saddle-up for a great ride on a one-of-a-kind hobby horse—add a new deck to the bunkhouse—or modernize the kitchen for your favorite "Miss Kitty"!

The MARK V gives you a table saw, drill press, horizontal boring machine, lathe and disc sander in one compact, easy-to-use unit that's no bigger than a bicycle. And when you're ready to move on to more advanced projects, there's a whole "gang" of hard-working Shopsmith accessories to help you tackle those bigger jobs while you build your woodworking skills.

Plus a lifetime of support!

As a MARK V owner, you receive

complete operating instructions—plus you can learn more about woodworking through our classes, seminars, educational video tapes, catalogs and our special owners' magazine, "Hands On".

You can also call us Toll-Free for the answers to all your woodworking questions. And you'll have the confidence of dealing directly with Shopsmith, either by mail, Toll-Free phone or at one of our growing network of Shopsmith Stores.



Dept. 3766

FREE Information Kit!

Just call Toll-Free or mail the coupon below to request a FREE MARK V Full Color Brochure or VHS Videocassette. There's no obligation, so act NOW.

For your FREE Information Kit Call

1-800-526-8200

or mail the coupon below to:



Shopsmith Inc.

The Home Workshop Company
3931 Image Drive
Dayton, Ohio 45414-2591

Yes! I'd like to know more about how the MARK V can improve the woodworking on my ranch. Please send me:

- FREE Color Brochure on the Shopsmith MARK V, or
- FREE VHS Videocassette and Color Brochure. (3767)

Name _____

Address _____

City _____ State _____ Zip _____

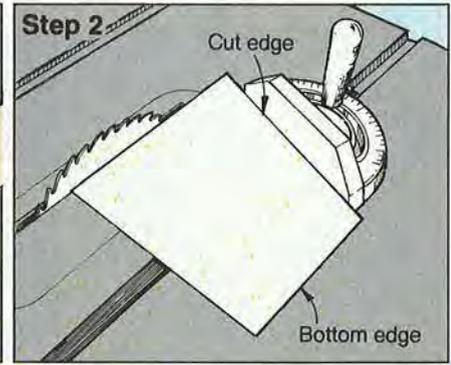
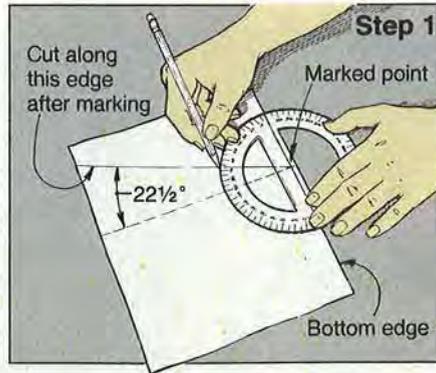
I currently own Shopsmith Power Equipment.

Send to: Shopsmith, Inc., 3931 Image Drive, Dayton, OH 45414-2591

PRECISE MITER CUTS EVERY TIME

Accurately setting the miter gauge on a tablesaw for an odd-degree cut, such as $22\frac{1}{2}^\circ$ from center, is nearly impossible without the help of a measuring tool such as an adjustable triangle. You can buy such an instrument for about \$10, or you can be just as accurate with much more common materials.

TIP: You'll need a protractor, scissors, pencil, straightedge, and sheet of heavy paper or thin poster board. First, mark a point about halfway across the bottom edge of the piece of paper. Then, lay the protractor along that edge, with its center over the marked point you just made. Now, mark a second point at the outside of the protractor at the desired number of degrees from the 90° mark as shown in Step 1 above. For this example, since we want a $22\frac{1}{2}^\circ$ angle, we



marked the second point at $67\frac{1}{2}^\circ$ (90° minus $22\frac{1}{2}^\circ$). Connect the two points with a straight line that goes across the page, and use scissors to cut along the line, following it closely.

Moving to your tablesaw, keep the same face of the paper up and place its bottom edge away from the blade, with the just-cut edge facing the miter gauge. Move the edge nearest the blade flush against

it and align the fence of the miter gauge with the cut edge as shown in Step 2 above. You can set the miter gauge for the same number of degrees from the other side of center by simply flipping the sheet over and placing the base edge along the blade. You may want to apply the piece of paper to a sheet of hardboard and cut it to shape for future use as a template.

—Ray Russell, Des Moines

MAKE FAST WORK OF LAMINATING

Applying plastic laminate to two faces of a cabinet door, shelf, or other stock eats up a lot of your time when you do one side first, then wait for it to dry before covering the second side.

TIP: You can apply the laminate to both sides almost simultaneously. First, drive brads or small finishing nails into the corners of the stock, as shown below right. Apply contact cement to this side and then

turn over the stock so the nails support it. Now, apply cement to the other face and to the two pieces of laminate you have prefit. Allow the cement to dry until tacky, and place the first piece of laminate on the side without nails. Flip the stock over, pull out the nails with pliers, and carefully lay the second sheet of laminate in place. Allow the cement to cure.

—Roy T. Higa, Honolulu

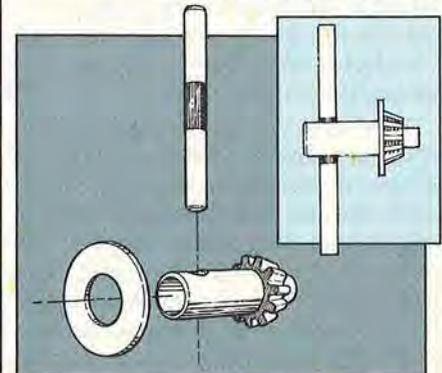


SIMPLE CHUCK KEY GUARD

Getting your fingers caught between the teeth of a drill chuck and chuck key (it happens to the best of us!) can add a mighty painful twist to tightening a bit.

TIP: Slipping a washer between those grinding teeth and your fingers neatly solves this problem. Use a partially open vise or a small anvil to support the chuck key, as you gently hammer the handle out of the key (you may need a small punch to remove it completely). Now slip on a large metal washer to act as a shield and tap the handle back in place.

—Louis Mouis, Aurora, Ill.



Continued on page 19

Do you have any good tips you'd like to share with our readers? We'll pay you \$25 for each submission we publish. We try not to use tips that have appeared in other magazines, so please send your tip to only one publication. We cannot return shop tips. Mail your tips, address, and daytime phone number to:

Shop Tips
Better Homes and Gardens®
WOOD® Magazine
Locust at 17th
Des Moines, IA 50336



Our 10th ANNIVERSARY Gift To You!

ACT NOW! Buy 1-Dozen Belts

12
Get 6 Belts FREE!

We are celebrating our 10th Year supplying Belts and Sanding Accessories direct to the Woodworker.



SANDING BELTS

Available in 36, 40, 50, 60, 80, 100, 120, 150, 180, 220, 240, 320 grit sizes. Please specify when ordering. We will ship an assortment of 24 Fine, Medium and Coarse unless otherwise specified. BELTS - x weight, a/o, cloth.

- 1 1/8" x 21" \$13.50/doz.
 - 1" x 30" 15.50/doz.
 - 1" x 42" 15.70/doz.
 - 1" x 44" 15.75/doz.
 - 2" x 48" 19.50/doz.
 - 2 1/2" x 16" 16.50/doz.
 - 3" x 18" 16.75/doz.
 - 3" x 21" 17.75/doz.
 - 3" x 23 3/4" 17.90/doz.
 - 3" x 24" 18.00/doz.
 - 3" x 27" 18.50/doz.
 - 4" x 21" 19.95/doz.
 - 4" x 21 3/4" 20.00/doz.
 - 4" x 24" 20.50/doz.
 - 4" x 26" 20.95/doz.
 - 4" x 36" 23.95/doz.
 - 4" x 52 1/2" 34.95/1/2 doz.*
 - 6" x 48" 32.95/1/2 doz.*
 - 6" x 89" 57.95/1/2 doz.*
 - 4" x 132" 59.95/1/2 doz.*
- * (6 FREE)

STIKY DISC

Stiky Disc, Rugged Cloth. Buy 5, get 1 FREE. Available in 50, 80, 120, 180, 240 grit size.

- 6" diameter \$5.00/each
- 8" diameter 6.25/each
- 9" diameter 7.50/each
- 12" diameter 10.00/each

PRO'S BEST

- 0000 Steel Wool \$3.95/pk.
 - 000 Steel Wool 3.95/pk.
- 1 Pack contains 16 pads.

"Wooden Memories" PLANS

- Bessie the Cow \$9.00
 - Bill E. Goat 9.00
 - Beezer the Burro 9.00
 - Ole Grey Mare 7.00
- Build an heirloom today!
Life like, full size rockers.

9" x 11" PAPER SHEETS

A/O Cabinet Paper (Brown)

- | | |
|---|-----------------------------------|
| 40-D... <input type="checkbox"/> \$17/pk. | <input type="checkbox"/> \$31/pk. |
| 50-D... <input type="checkbox"/> 16/pk. | <input type="checkbox"/> 28/pk. |
| 60-D... <input type="checkbox"/> 15/pk. | <input type="checkbox"/> 26/pk. |
| 80-D... <input type="checkbox"/> 14/pk. | <input type="checkbox"/> 24/pk. |
| 100-D... <input type="checkbox"/> 13/pk. | <input type="checkbox"/> 22/pk. |
| 120-D... <input type="checkbox"/> 13/pk. | <input type="checkbox"/> 22/pk. |
| 150-D... <input type="checkbox"/> 13/pk. | <input type="checkbox"/> 22/pk. |

Garnet Paper (Red)

- | | |
|---|-----------------------------------|
| 40-D... <input type="checkbox"/> \$17/pk. | <input type="checkbox"/> \$31/pk. |
| 50-D... <input type="checkbox"/> 16/pk. | <input type="checkbox"/> 28/pk. |
| 60-D... <input type="checkbox"/> 15/pk. | <input type="checkbox"/> 26/pk. |
| 80-D... <input type="checkbox"/> 14/pk. | <input type="checkbox"/> 24/pk. |
| 100-C... <input type="checkbox"/> 13/pk. | <input type="checkbox"/> 22/pk. |
| 120-C... <input type="checkbox"/> 13/pk. | <input type="checkbox"/> 22/pk. |
| 150-C... <input type="checkbox"/> 13/pk. | <input type="checkbox"/> 22/pk. |
| 180-A... <input type="checkbox"/> 12/pk. | <input type="checkbox"/> 20/pk. |
| 220-A... <input type="checkbox"/> 12/pk. | <input type="checkbox"/> 20/pk. |

No-Loading Finishing Paper (White)

- | | |
|---|-----------------------------------|
| 80-C... <input type="checkbox"/> \$16/pk. | <input type="checkbox"/> \$28/pk. |
| 100-C... <input type="checkbox"/> 14/pk. | <input type="checkbox"/> 24/pk. |
| 120-C... <input type="checkbox"/> 14/pk. | <input type="checkbox"/> 24/pk. |
| 150-C... <input type="checkbox"/> 14/pk. | <input type="checkbox"/> 24/pk. |
| 180-A... <input type="checkbox"/> 11/pk. | <input type="checkbox"/> 19/pk. |
| 220-A... <input type="checkbox"/> 11/pk. | <input type="checkbox"/> 19/pk. |
| 280-A... <input type="checkbox"/> 11/pk. | <input type="checkbox"/> 19/pk. |
| 320-A... <input type="checkbox"/> 11/pk. | <input type="checkbox"/> 19/pk. |
| 400-A... <input type="checkbox"/> 11/pk. | <input type="checkbox"/> 19/pk. |

Wet or Dry S/C Paper (Black)

- | | |
|--|-----------------------------------|
| 220-A... <input type="checkbox"/> 15/pk. | <input type="checkbox"/> \$25/pk. |
| 320-A... <input type="checkbox"/> 15/pk. | <input type="checkbox"/> 25/pk. |
| 400-A... <input type="checkbox"/> 15/pk. | <input type="checkbox"/> 25/pk. |
| 600-A... <input type="checkbox"/> 15/pk. | <input type="checkbox"/> 25/pk. |

"SANDVIK"



- HAND SCRAPER** \$5.95
6" x 2 1/2" x .030 high quality steel cabinet scraper.
- BELT CLEANING STICK** \$6.95
2" x 2" x 6" - Makes your Belts, Discs, Sleeves last 3 x as long.

Bench Top CUSHION CONTOUR SANDERS

Simply ... chuck into your drill press or hand drill, inflate to desired hardness and you're ready to go. You receive 4 FREE asst. sleeves with purchase of sander!

- 2" x 4 1/2" Sander w/3/8" shaft \$34.95
 - 1 1/2" x 4 1/2" Sander w/3/8" shaft 33.95
 - Pk. of 5 Replace. Sleeves* 2" x 4 1/2" 4.25
 - Pk. of 5 Replace. Sleeves* 1 1/2" x 4 1/2" 4.25
- *Choose from 80, 100, 120, 150 grit.



SAND-O-FLEX UNIT

- Metal SAND-O-FLEX \$18.00
 - Plastic SAND-O-FLEX 14.95
 - 3/8" Shank Adapter for Metal Sand-O-Flex ... 2.00
 - Sand-O-Flex Abrasive Re-fills* 4.35
- *Available in 80, 120, 180 grits.



BOWL SANDING KITS

Kit includes 1 each, 2" dia. and 3" dia. sanders with 1/4" shaft. Sander conforms to the contour of the bowl.

- Kit comes with 3 flexible discs/sander. 1 each, Fine, Medium and Coarse \$9.95
 - 25 2" PSA FLEX DISCS 7.00
 - 25 3" PSA FLEX DISCS 9.95
- Choose from 80, 120, 180 & 220 grits. All 25 pcs. same grit.



MITCHELL'S ABRASIVE CORDS/TAPE

- Abr. Cord (.055 dia. x 25 yds., 150 grit) ... \$9.95
 - Abr. Tape (3/32" x 25 yds., 150 grit) 10.95
- Reaches those "near to impossible places" with ease!



SEND FOR FREE CATALOG

FREE! WITH ANY ORDER OVER \$50.00, CHOOSE A BELT CLEANING STICK OR A "Wooden Memories" PLAN.



- Belt Cleaning Stick
- Bill E. Goat
- Ole Grey Mare
- Bessie the Cow
- Beezer the Burro

- MONEY BACK GUARANTEE!
- SHOP OUR OUTLET STORE IN READING, PA. "The Outlet Capital of the World"
- PROMPT DELIVERY FROM STOCK!

Singley "Sleeveless" DRUM SANDERS

No pre-made sleeves to buy. Cut your 9 x 11 sandpaper, lock into drum and begin sanding.



- 3/4" x 3" \$13.95
- 1" x 3" 13.95
- 2" x 3" 15.95
- 2 1/2" x 3" 16.95
- 3" x 3" 17.95



- 12 Piece Extra Length **SANDING DRUM KIT** \$9.95
Included are 1 Fine and 1 Coarse abrasive band for each size drum. 1/2", 3/4", 1", 1 1/2" dia. x 2" long.
- RE-FILL PACK.**
16 pc. asst., 1 Fine, 2 Medium, 1 Coarse per drum \$5.95

INDUSTRIAL ABRASIVES CO.

For Fast Delivery Call Toll Free
1-800-428-2222 (U.S.A.)
1-800-222-2292 (PA only)

643 N. 8th STREET
READING, PA 19612

SHIPPING CHARGES - MIN. ORDER \$25.00
Under \$35 add \$2.50. \$35 or more add \$4.00. PA residents add 6% sales tax.

- MONEY ORDER
- MASTERCARD
- VISA
- CHECK

Acct. # _____ Exp. Date _____
Name _____ DAYTIME PHONE () _____
Street _____ PLEASE PRINT
City _____ State _____ Zip _____

USE THIS AD TO ORDER

USE THIS AD TO ORDER

BUILD IT BETTER Yourself!

Announcing
a new book series
especially for
home woodworkers...

Leave it to Rodale Press, publishers of *American Woodworker*[™] magazine, to publish an exciting new book series for woodworkers—books with lots of great projects, clear writing and comprehensive instructions—that are *very reasonably priced*.

Build-It-Better-Yourself Woodworking Projects will give you the skills, the confidence and the detailed plans you need to build the projects you've always dreamed of making.

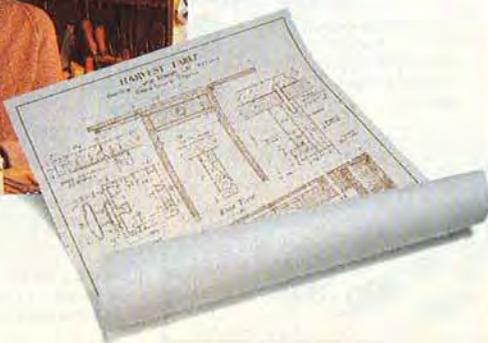
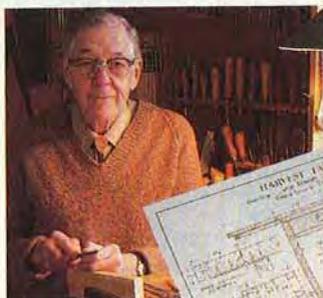
Start with your introductory volume— OUTDOOR FURNITURE

OUTDOOR FURNITURE—like all the books in this series—brings you projects that will add both beauty and practicality to your home. Projects range from simple, Saturday-morning affairs to challenging pieces that will give you hours of satisfaction.

What's more, you'll get a vast source of ideas, tips, techniques and projects to fill you with excitement and provide hours of joy and relaxation in your shop. You'll "learn as you go" with each volume of *Build-It-Better-Yourself Woodworking Projects*.

Lifetime money-back guarantee!

Start today by sending for your Introductory Volume, OUTDOOR FURNITURE. You must be satisfied with Rodale's *Build-It-Better-Yourself Woodworking Projects* or you may return any book at any time for a full refund of its purchase price.

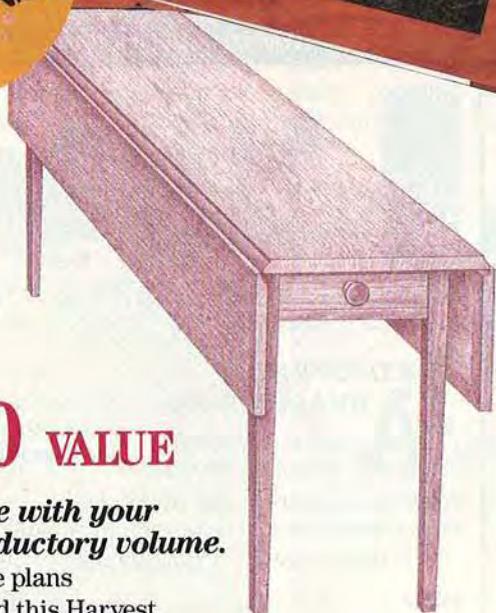


**FREE
PLANS!**

A \$7.50 VALUE

—free with your introductory volume.

Get the plans to build this Harvest Table. Measured and drawn by master-woodworker Carlyle Lynch, these plans make it easy to build this authentic reproduction of this antique drop-leaf table.



Step-by-step instructions

No more guesswork! Every project is thoroughly explained, one step at a time.

Expert Answers When a special technique is called for, we'll show you how to do it right—the first time.

Close-ups show details Even intricate handwork is made simple with close-up photos and detailed drawings.

Exploded illustrations You'll see exactly what to do with the help of carefully detailed drawings.

Photo of finished project You'll see exactly what your final project will look like.

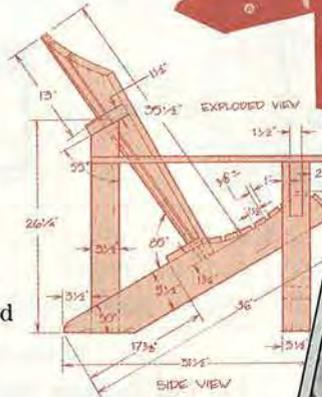
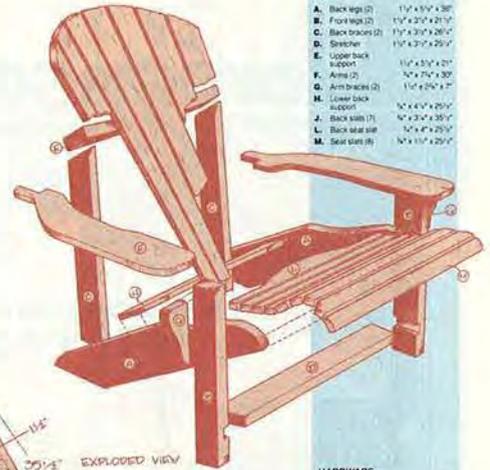
No-nonsense writing We've taken out the jargon and made things easy to read and understand.

Top-quality projects Each project is designed for good looks and sturdy performance.

Materials List

PARTS	
A. Back legs (2)	1 1/2" x 3 1/2" x 36"
B. Front legs (2)	1 1/2" x 2 1/2" x 21 1/2"
C. Back boards (2)	1 1/2" x 3 1/2" x 26 1/2"
D. Seat board	1 1/2" x 2 1/2" x 25 1/2"
E. Upper back support	1 1/2" x 3 1/2" x 21"
F. Arms (2)	1 1/2" x 7 1/2" x 30"
G. Arm braces (2)	1 1/2" x 2 1/2" x 21"
H. Lower back support	1 1/2" x 3 1/2" x 25 1/2"
J. Back slats (7)	1/2" x 3 1/2" x 35 1/2"
L. Back side rail	1 1/2" x 3 1/2" x 25 1/2"
M. Seat slat (6)	1 1/2" x 2 1/2" x 25 1/2"

HARDWARE	
#12 x 2 1/2" Flathead wood screws (28)	
#10 x 1 1/2" Flathead wood screws (58)	



TRY THIS! You can scribe the arcs on the back supports and seat slat with a compass. The rule to make yourself a compass made from a wooden yardstick is ideal. A compass interval is nothing more than a long thin board the same length of the board. Drill small holes at the ends of the board. To use the compass, put a finishing nail through one of the holes in the compass stock, measure along the stock from the finishing nail to another hole, and mark the sharp end of a pencil through that second hole. Then swing the arc.



A—Adirondack chairs are timeless and attractive. See page 116 for complete details on building one for *your* yard.



B—For courting or contemplation, this contoured porch swing will turn any house into a country home. See page 24.

C—This garden bench, with its gently curving arms, gives you a comfortable place from which to enjoy the beauty of your yard. Step-by-step details start on page 54.



Projects from your first volume . . . OUTDOOR FURNITURE

FREE 21-DAY EXAMINATION

YES! Please send me **OUTDOOR FURNITURE**, my first volume of *Build-It-Better-Yourself Woodworking Projects*, to examine without cost or obligation for 21 days. If I choose to keep it, I'll pay just \$14.95 plus postage and handling, and I'll be entitled to receive a new volume in the series, also for 21 days, free. I am not obligated to buy any book and I may cancel at any time simply by notifying you.

If I decide *not* to keep **OUTDOOR FURNITURE**, I'll return it within 21 days and no other books in the series will be sent. No matter what, the genuine Harvest Table plans by Carlyle Lynch are mine to keep.

Y03

NAME _____

ADDRESS _____ APT.# _____

CITY _____

STATE _____ ZIP _____

SEND NO MONEY NOW.

Clip and mail to: Rodale Books P.O. Box 10848 Des Moines, IA 50336-0848

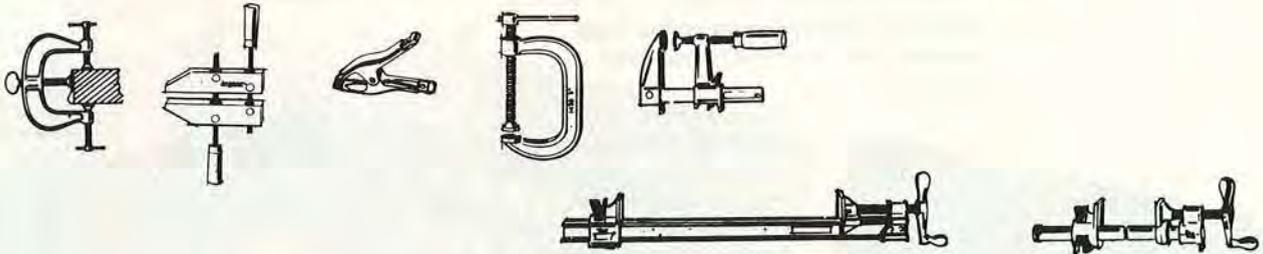
"Jorgensen"®

AND

"Pony"®

CLAMPS

Dependable extra hands for all types of clamping and work-holding jobs:
Woodworking Projects, Home Maintenance, and Furniture Repair.



Write for FREE LITERATURE.

For big 32-page "how-to-clamp-it" catalog, send \$1.00.

ASK YOUR DEALER

ADJUSTABLE CLAMP COMPANY

THE CLAMP FOLKS

410 N. Ashland Avenue • Chicago, IL 60622

MANNY'S WOODWORKER'S PLACE
LEXINGTON, KY

has

SALE ON

**WOODWORKING
BOOKS &
VIDEOS**

All Prices Post Paid
Toll Free 1-800-243-0713
VISA, MC, Checks, add \$3 C.O.D.
Catalog only \$2



Tips & Techniques for Builders \$9
Technique 1-9 \$18 ea; All 9 for \$155
Fine Woodworking On - (Series of 20 books)
\$7 ea; All 20 for \$135
Tage Frid Teaches Woodworking - Book 1-3
\$19 ea; All 3 for \$48
Workbench Book \$22; Timberframe Hse. \$22
Construction Techniques 1 or 2 \$23 ea
Understanding Wood (Hoadley) \$22
Setting Ceramic Tile (Byrne) \$17
Design 4 \$16; Design 3 \$13; Design 2 \$12
Biennial Design \$11; All 4 Design Books \$50
Turning Wood (Raffan) \$16;
Turned Bowl Design \$16
How to Carve Wood (Butz) \$13
Making Kitchen Cabinets-NEW (Levine) \$17
Building Your Own Kitchen Cabinets
(Cary) \$13
Japanese Woodworking Tools (Odate) \$22
Building a Houseful of Furniture (Watts) \$18
Federal Furniture (Dunbar) \$13
Soul of a Tree (Nakashima) \$58
Sam Malool, Woodworker \$58
Roy Underhill - The Woodwright's Shop
Woodwright's Companion or Woodwright's
Workbook \$12 ea; All 3 for \$35

Contemporary American Woodworkers \$28
Cabinetmaking, Professional Approach .
(Peters) \$28
Cabinetmaking & Millwork - New Edition
(Feirer) \$43
James Krenov Books - Call for Availability
Router Jigs and Technique (Spielman) \$14
Router Handbook (Spielman) \$10
Scroll Saw Pattern Book 12: Scroll Saw
Handbook \$12
Encyclopedia of Furnituremaking (Joyce) \$28
Wood Finishing (George Frank) \$19
Projects for the Router (Chaffin) \$9
The Router (Rosenthal) \$14
200 Original Shop Aids (deCristoforo) \$14
Stationary Power Tool Tech
(deCristoforo) \$14
Table Saw or Radial Armsaw Tech
(Cliffe) \$14 ea.
Making Woodworking Aids & Devices \$9
Precision Machinery Techniques \$9
Gluing and Clamping (Spielman) \$12
Making Wood Boxes with Bandsaw \$9
Making Small Wooden Boxes \$9
Making Wood Banks \$7
Guitarmaking (Cumbiano) \$55

Sculpting Wood (Lindquist) \$28
Woodturning, A Designer's Notebook
(Key) \$12
Woodturner's Project Book (Jones) \$12
Small and Unusual Woodturning Projects
(Jacobson) \$12
Dale Nish - Creative Woodturning \$14;
Artistic Woodturning \$17; Master
Woodturners \$19; All 3 by Nish \$48
The Practices of Woodturning (Darlow) \$21
The Craft of Woodturning (Sainsbury) \$11
Polychromatic Assembly for
Woodturning \$16
How to Make Animated Toys \$12
Toymaker's Wooden Vehicles
(Buckland) \$12
Blizzard's Dazzling Wooden Toys \$12
How to Make Shaker Furniture (Moser) \$12
Measured Shop Drawings of American
Furniture (Moser) \$14
Thos. Moser's Windsor Chairmaking \$9
Antique Country Furniture of North America
(Shea) \$18
Masterpiece Furniture Making
(Gottshall) \$27
101 Projects for Woodworkers \$14
World Woods in Color (Lincoln) \$37
Know Your Woods (Constantine) \$13
Handcrafted Shelves & Cabinets
(Rowland) \$14
Handcrafted Doors & Windows
(Rowland) \$14
A Treatise on Stairbuilding and
Handrailing \$21
Building Ship Models \$8
Computer Furniture, Plans & Projects \$15

VIDEOS VHS Only

Levine - Making Kitchen Cabinets \$28
Roger Cliffe - Faceplate Cabinetmaking
Series of 5 tapes \$30 ea; All 5 for \$135
Call for information.
Cliffe - Table Saw or Radial Arm Saw
Tech. \$29 ea.
Krenov - Wooden Planes & Cabinetmaking
Scrapers \$38
Maas - Router Jigs & Techniques \$28
Rosenthal - Router Basics; Router Jigs &
Accessories; Table Mounting Your Router
\$38 ea; 3 for \$110
Raffan - Turning Wood \$38
Stubbs - Bowl Turning \$38
Bush - Carving Techniques & Projects \$28
Barton - Chip Carving \$28
Byrne - Tiling Countertops; Tiling Walls;
Tiling Floors \$28 ea; 3 for \$80
Roy Underhill - Shop Planes; Chairmaking;
Log & Timberframe Building \$38 ea.
Klausz - Mortise & Tenon Joints \$28
Klausz - Dovetail & Drawer \$28
Klausz - Wood Finishing \$38
Cummins - Small Shop Tips & Tech. \$28
Flexner - Repairing Furniture \$28
Lowe - Carve a Ball & Claw Foot \$38
Erpelding - Radial Arm Saw Joinery \$38
Parko - Learn Woodworking, Make a Blanket
Chest \$37
Rogers - Molding & Picture Frames \$22
Rogers - Building Bookcases \$22
Rogers - Building Cabinets \$22
Rogers - Building Tables \$22
Rogers - Furniture Refinishing \$22

Foreign Orders Welcome, Canada add 5%; Japan, Europe, etc. add 10% for Shipping

MANNY'S WOODWORKER'S PLACE
602 S. Broadway, Lexington, KY 40508

Inquiries (606) 255-5444
Hours 9-5:30 Mon.-Sat.

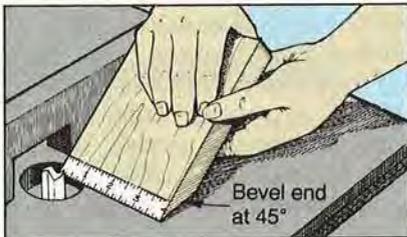
Continued from page 14

HANDY GAUGE FOR ROUTER-FENCE SETTING

The bit clearance cutouts in some router fences make it difficult to use a rule to determine accurate bit-to-fence spacing.

TIP: A 3x6" piece of 1/2" plywood makes a good base for a gauge. Cut a 45° bevel on one end of the stock and glue or tack a section of tape measure as shown below. Held perpendicular to the fence, this gauge assures accurate measuring. Held vertically, it reads elevation of the bit. This gauge also comes in handy for setting the rip fence on a tablesaw.

—Eben H. Gustafson, Martinsburg, W.Va.

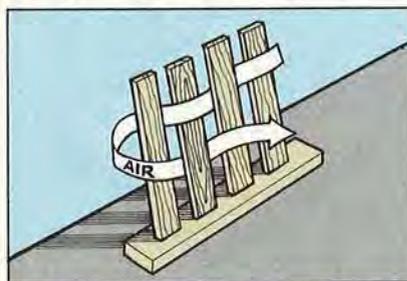


DON'T LET WOOD GET BENT OUT OF SHAPE

Freshly resawed or planed stock will almost certainly warp when allowed to lie facedown on a flat surface for as short a time as one hour (even faster in dry climates). Moisture will escape from the exposed face of the board at a faster rate than from the side facing down. You would have the same unpleasant consequence if you finished one side of a piece and left the other side unfinished.

TIP: Stand the piece(s) on end so air can flow along all surfaces. Leaving wood this way overnight allows the stock to restabilize.

—From the WOOD® magazine shop



Continued on page 20

WOODWORKER'S CATALOG

There are over 4,000 money saving reasons why woodworkers rely on Constantine.

4,000 woodwork items—to help you Build-Restore-Repair-Refinish! Over 200 different woods ... 150 veneers ... 500 plans ... cabinet hardware ... 96 How-To Books ... 118 carving tools and chisels ... 76 inlay designs ... and lots more for One-Stop, Right-Price Shopping without leaving home!
All in our 116 page, full color catalog — and all yours for only \$1.00!



YES, rush, my 1989

Constantine's Woodworker's Catalog. My \$1.00 is enclosed.

Send To:

CONSTANTINE Est. 1812
 2054Y Eastchester Road
 Bronx, New York 10461

Name _____

Address _____

City _____

State _____

Zip _____



HOME PLANNERS, INC.

Find your dream home in these six exciting volumes packed with proven, innovative home designs. Order your favorite category, or send for the complete collection, with over 4,050 illustrations in 1,136 pages!



SAVE! Order our complete collection, all 6 books, **only \$19.95!** (A \$30.70 value.)

Satisfaction Guaranteed! Credit Card Orders Call Toll-Free 1-800-322-6797

HOME PLANNERS, INC.
 Dept. BK, 23761 Research Drive, Farmington Hills, MI 48024
 Please RUSH by return mail (check choice):

(1) 315 ONE STORY HOMES (under 2,000 sq. ft.) \$4.95
 (2) 210 ONE STORY HOMES (over 2,000 sq. ft.) \$4.95
 (3) 150 1-1/2 STORY HOMES \$3.95
 (4) 360 TWO STORY HOMES \$6.95
 (5) 215 MULTI-LEVEL HOMES \$4.95
 (6) 223 VACATION HOMES \$4.95

BHS91WW

SEND ALL 6 BOOKS AT \$19.95 (A \$30.70 VALUE!)

Name _____
 Address _____
 City _____ State _____ Zip _____

In Canada, add 20% to above prices and mail in Canadian funds to: HOME PLANNERS, INC., 20 Cedar St. N., Kitchener, Ontario N2H2W8

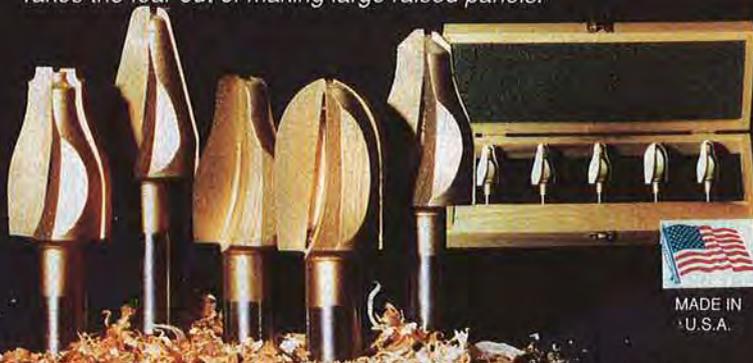
Amount Enclosed: Add \$1.50 for Postage. Mich. residents add 4% sales tax. \$ _____

NEW

SAFETY-RAISER™ PANEL BITS

PATENT PENDING

"Takes the fear out of making large raised panels."



FOR A COMPLETE
TECHNICAL BROCHURE
AND THE NAME OF THE
DEALER NEAREST YOU, CALL:

BYROM

INTERNATIONAL CORPORATION

(216) 285-2341

(800) 722-5447

P.O. BOX 246,

CHARDON, OHIO 44024

Dealer's choice.

The Excalibur T-Slot Fence System turns table saws into precision wood-working machines.



EXCALIBUR
MACHINE & TOOL CO.

EXCALIBUR MACHINE & TOOL COMPANY

U.S.A.

210 Eighth St. South,

Lewiston, NY 14092

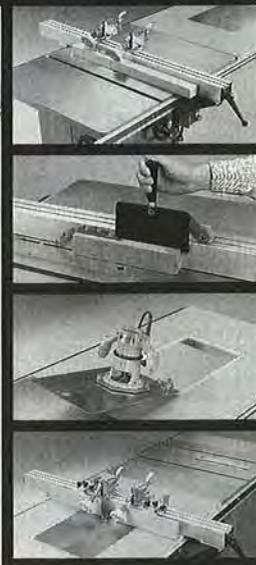
TOLL FREE: 1-800-387-9789

CANADA

3241 Kennedy Rd., #7

Scarborough, Ont. M1V 2J9

(416) 291-8190



PLEASE PHONE FOR THE NAME OF YOUR NEAREST DEALER
DEALER INQUIRIES ARE WELCOME

THE EXCALIBUR T-SLOT FENCE SYSTEM IS AT SELECTED DEALERS NOW!

TIPS FROM YOUR SHOP (AND OURS)

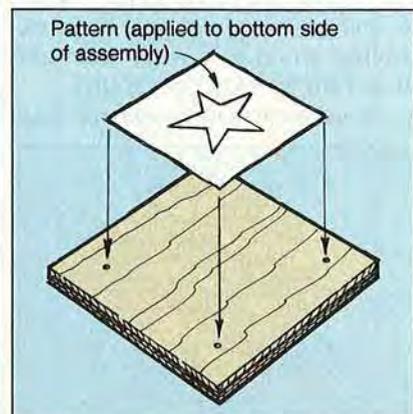
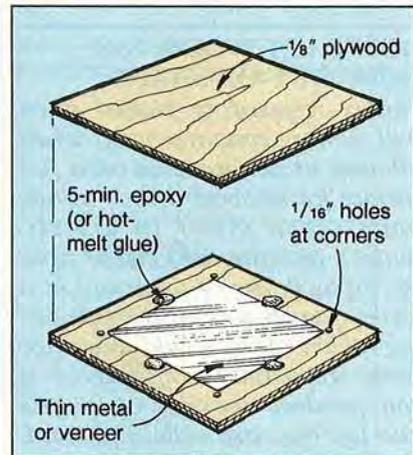
Continued from page 19

A SANDWICH FOR CUTTING THIN METAL AND VENEER

It's difficult to make good, clean cuts in thin metal, plastic, or veneer with a bandsaw or other saw because the flimsy material may bend or even get caught in the saw blade. As a consequence you might ruin the stock or possibly injure yourself.

TIP: Place the thin material between two pieces of 1/8" plywood or similar thin stock, held together with dabs of five-minute epoxy or hot-melt adhesive. Before assembling the sandwich, drill 1/16" holes at the corners of the thin material so you'll know its position inside the plywood pieces. Tape or glue the cutting pattern to the bottom side of the assembly as shown below, and then flip the piece over before you start cutting. If you've made vertical cuts, the pattern portion should drop out with little effort.

—From the WOOD® magazine shop



Continued on page 22

WOODWORKERS HARDWARE

WHOLESALE ORDER FORM

Projects you can build in a single evening

Grocery List Project



You can make these 16" high Grocery List Projects from standard 3/4" thick lumber. We supply the Full Size blueprint together with enough Grocery Lists (500 sheets) and Brass Plated Bolt Sets (10 sets) to make 10 projects. Grocery Lists are 11" long and are printed on peach colored paper with a rich brown ink. Duck cutout and 3/4" wood are not included in kit.

#7453 Country Grocery List Package\$14.55/EA
#09451 Wood Cutout Ducks 3-3/4"\$4.9/EA

Doll Stroller

Build this Doll Stroller from 3/4" pine and 1/4" plywood. Extremely easy to build from our Giant Plan Set. Fits 15" high dolls.

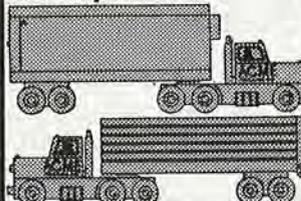
#W124 Doll Stroller Plan\$3.50/EA

Hardware Kit

Special Kit includes 4-1/2" Stroller Wheels, Axles, Wood Spindles, Screws, Wood Plugs, and Dowel Rod. Plan and other wood parts needed are not included with kit.

#1538 Doll Stroller Hardware Kit\$5.22/EA

Best Toy Truck Plans



Build from "2x4" and 3/4" stock. Huge 22" x 34" plans for 2 trucks.

#W144 Truck Plans\$4.00/EA

Truck Hardware Kit



46 piece kit includes 2" Wood Wheels, Axle Pegs, Window Decal Set, and Misc. Wood Turnings for Head Lights, Clearance Lights, Radiator Cap, Gas Tanks, and Differential Cover. Enough hardware pieces to build one truck from plan above. Plan and other wood parts needed are not included with kit.

#1950 Truck Hardware Kit\$7.50/EA

Hardwood Toy Wheels

- #W050100 1/2" 1/8" Hole.....\$3.20/100
- #W075100 3/4" 1/8" Hole.....\$3.50/100
- #W076100 3/4" 3/16" Hole.....\$3.50/100
- #W087100 7/8" 1/8" Hole.....\$4.70/100
- #W100100.....\$6.00/100
- #W125100 1-1/4".....\$8.00/100
- #W150100 1-1/2".....\$11.00/100
- #W175100 1-3/4".....\$15.80/100
- #W200100 2".....\$19.50/100
- #W22520 2-1/4".....\$7.30/20
- #W25020 2-1/2".....\$8.80/20
- #W27520 2-3/4".....\$10.20/20

Axle Pegs

- #AP1 Fits 1" - 2" Dia. Wheel.....\$4.10/100
- #AP4 Fits 2-1/4" - 2-3/4" Dia. Wheel.....\$1.60/20
- #AP6 Fits #W076100.....\$3.00/100

2" Wood Wheels With Tread

- #705020 Front.....\$6.30/20
- #7050100.....\$25.50/100 (Order #AP4 above)
- #705120 Dual Rear.....\$10.50/20
- #7051100.....\$42.90/100
- #AP5 Axle Pegs for Dual Rear Wheel.....\$1.98/20

Birch Shaker Pegs

- #7228 3-1/2".....\$15.00/100
- #7280 2-1/2".....\$1.90/10
- #7227 1-3/4".....\$1.10/10
- #7227 1-3/4".....\$7.60/100

Oak Shaker Pegs

- #SKP2 3-1/2".....\$3.35/10
- #7261 1-3/4".....\$2.00/10
- #7261 1-3/4".....\$15.00/100

Mug Pegs

- #MGP1 3-3/8".....\$2.70/10
- #MGP1 3-3/8".....\$25.00/100

Birch Country Pegs

- #1770 3-1/2".....\$1.80/10
- #1770 3-1/2".....\$13.00/100
- #S6 5-3/4".....\$4.9/EA
- #S85 9".....\$8.5/EA
- #S110 11".....\$1.35/EA

Birch Dowel Pins

- #1142 1/4" x 2".....\$1.90/100
- #1142 1/4" x 2".....\$8.50/500
- #1382 3/8" x 2".....\$2.00/100
- #1382 3/8" x 2".....\$9.25/500

Oak or Birch Galley Spindles

- #S1 Birch 1-1/8".....\$1.30/10
- #S1 Birch 1-1/8".....\$9.00/100
- #S4 Birch 1-1/2".....\$1.70/10
- #S4 Birch 1-1/2".....\$15.60/100
- #S10AK 1-1/8".....\$1.50/10
- #S10AK 1-1/8".....\$12.00/100
- #S4OAK 1-1/2".....\$2.40/10
- #S4OAK 1-1/2".....\$22.00/100

Birch Screw Hole Buttons

- #1432 3/8".....\$1.76/100
- #1432 3/8".....\$7.50/500
- #1434 1/2".....\$1.76/100
- #1434 1/2".....\$8.00/500

Oak Screw Hole Buttons

- #1452 3/8".....\$3.70/100
- #1452 3/8".....\$15.50/500
- #1454 1/2".....\$3.80/100
- #1454 1/2".....\$16.00/500

Birch Candle Cups

- #7290 1".....\$2.00/10
- #7290 1".....\$13.00/100
- #CC1 1-1/2".....\$2.90/10
- #CC1 1-1/2".....\$19.00/100
- #7385 5/8".....\$1.50/10
- #7385 5/8".....\$10.50/100
- #8149 1" Bean Pot.....\$2.00/10
- #8149 1" Bean Pot.....\$13.00/100

2" Brass Eagles

- #878.....\$2.75/10
- Quartz Clock Movement W/Hands.....\$5.50/EA
- #Q82 1-4.....\$5.50/EA
- 5-9.....\$4.35/EA
- 10-24.....\$3.95/EA
- 25+.....\$3.40/EA

Push-Thru Lamp Socket

- #940.....\$1.59/EA

Lazy Susan Bearings

- #LC3 3".....\$.95/EA
- #LC4 4".....\$1.25/EA
- #LC6 6".....\$2.25/EA
- #12C 12".....\$5.99/EA

Clipboard Clips

- #L5 3".....\$.55/EA
- #S76 6".....\$.75/EA

Magnetic Strip

- #120A 1/2 in. x 120 inches.....\$4.40/Roll

Paper Towel Roller

- (spring loaded)
- #7238.....\$1.19/EA

Picture Hangers

- #S23 1-7/8".....\$4.70/100

Mini Hanger

- #7247 5/8".....\$2.60/100

Saw Tooth Hangers

- #859 1-5/8".....\$4.17/100
- #S60 2-3/4".....\$4.50/100
- #406 Self-Fastening Hangers.....\$4.77/100

Prong Hanger

- #7248.....\$2.90/100

Solid Brass Cup Hooks

- #812 1/2".....\$5.55/100
- #858 5/8".....\$6.30/100
- #834 3/4".....\$7.45/100

6" Brass & Porcelain Hooks

- #6417 3 Prong.....\$5.85/EA
- #6416 2 Prong.....\$2.97/EA

Black Hammer Hinge w/Screws

- #1730.....\$1.62/2
- #1730.....\$7.17/10

Brass Plated Hinges

- #910 1".....\$1.49/10
- #928 1-1/2".....\$2.39/10
- Screws For Above.....\$2.40/100
- #F124.....\$2.40/100

Production Screws

- #6277 1-1/4" x #6.....\$1.70/100
- #6278 1-5/8" x #6.....\$1.90/100
- #6279 2" x #6.....\$2.50/100
- #6282 3" x #8.....\$4.75/100

36" Birch Dowel

- #7160 1/8".....\$.70/5
- #7160 1/8".....\$2.50/25
- #7161 3/16".....\$.90/5
- #7161 3/16".....\$3.75/25
- #7162 1/4".....\$1.25/5
- #7162 1/4".....\$5.00/25
- #7163 5/16".....\$1.50/5
- #7163 5/16".....\$6.50/25
- #7164 3/8".....\$1.75/5
- #7164 3/8".....\$7.50/25
- #7166 1/2".....\$2.50/5
- #7166 1/2".....\$11.25/25
- #7167 5/8".....\$3.40/5
- #7167 5/8".....\$16.25/25
- #7168 3/4".....\$5.25/5
- #7168 3/4".....\$23.75/25

Ceramic Knob w/Black Screw

- #1661 3/4".....\$.69/EA
- #1661 3/4".....\$5.37/10
- #1662 1".....\$.79/EA
- #1662 1".....\$5.90/10
- #1663 1-1/4".....\$.89/EA
- #1663 1-1/4".....\$7.17/10

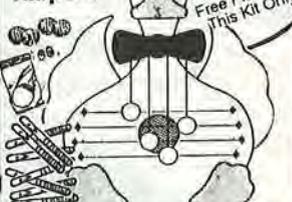
Sanding Belt Cleaner 8"

- #1710.....\$5.37/EA

WHAT'S A DOOR HARP?

Mounted on the inside of your door, a door harp will welcome your guests with a beautiful musical tune each time the door is opened. You'll find it easy to build these door harps in your shop using only standard 3/4" stock and our special Hardware Parts Kits.

Goose Door Harp Kit



This kit contains all hardware and 1/8" plywood for building this lovable Goose Door Harp. Full Size plans. Project requires some 3/4" pine (not included). Kit is not precut, some sawing required. You get 8 tuning pins, music wire, 4 clapper balls, plastic eyes, 1/8" thick plywood for front and back, plus complete plans and instructions.

#7640 Goose Door Harp Kit.....\$6.25/Kit

ANIMAL DOOR HARPS



DOOR HARP PLANS

You'll find our jumbo 22" x 34" blueprints very clear and easy to follow. Full step by step instructions explain every step. All drawings are FULL SIZE.

- #W263 Raccoon Plan.....\$3.50/EA
- #W264 Panda Plan.....\$3.50/EA
- #W265 Owl Plan.....\$3.50/EA
- #W266 Frog Plan.....\$3.50/EA
- #W267 Hog Plan.....\$3.50/EA
- #W270 Package of all 5 door harp plans above.....\$12.99/EA

HARDWARE PARTS KITS

These kits contain the hard to get parts - special high resonance plywood, tuning pins, clapper balls, music wire and plastic eyes. You need to supply some 3/4" stock, and the paint. Plan is not included with kit, order it above.

- #7765 Raccoon HDW Kit.....\$6.50/EA
- #7770 Panda HDW Kit.....\$6.50/EA
- #7767 Owl HDW Kit.....\$7.50/EA
- #7768 Frog HDW Kit.....\$6.50/EA
- #7769 Hog HDW Kit.....\$6.25/EA

Tuning Pin Wrench

- #7445 Tuning Pin Wrench.....\$9.95/EA

ORDER TOLL FREE 1-800-441-9870

MN 1-612-471-8550
8 AM - 5 PM Central

Send \$1.00 for Catalog or \$5.00 for Catalog plus Best Selling plan package (\$10.00 value) or order directly from this ad by phone or mail.

HOW TO ORDER: State quantity, part number, item, price, and total of order. Send check, money order, or Visa or M.C. number and Exp. date. Shipping: \$25.00 to \$49.99 add \$3.50, \$50.00 to \$99.99 add \$4.50, Over \$100.00 add \$5.00. MN Res. add 8% tax. Minimum order \$25.00.

Please send me: Catalog \$1.00 Catalog and Plan Package \$5.00

Print Name _____

Address _____

City _____

State _____

Zip _____

Phone # (_____) _____

Go Ahead, Make My Day, Easier!



HOT MELT GLUE GUNS

Make repairs a snap with the most comfortable and versatile Hot Melt Glue Gun going. The unique design keeps heat flow away from handle so it doesn't get too hot to handle as others do.

Bond almost anything permanently in 60 seconds without the need of mixing or clamping. You can replace bathroom tile, repair leather goods, toys, seal packages, fix furniture, glue picture frames, and it's the ideal tool for arts and craft projects.

ARROW FASTENER COMPANY, INC.

271 Mayhill Street, Saddle Brook, NJ 07662

In Canada: Jardel Distributors, Inc., 6505 Metropolitan Blvd. East, Montreal H1P 1X9 Quebec.

© Copyright 1988 Arrow Fastener Company, Inc.

WOODWORKING TREASURES



Create beautiful
scale masterpieces.
Simple tools & pride
in your work.
Award winning
results!

Choose from:

- V1. Victorian Glider Pony
- V2. Old English Rocking Horse
- G1. Early American Carousel Mare
- G2. French Carousel Rabbit
- G3. 19th. Century Carousel Lion

Order Today

Pre-cut Kits, only \$49.95
Full Size Plans, only \$14.95
Illustrated Brochure, \$1.00



G2. 08 x 3.5 x 10

The MASTERS WORKBENCH

P.O. Box 15284 Dept. BW-19 Portland, OR. 97215

Children's Furniture and
Toy Projects You Can Build



CHILDREN'S FURNITURE AND TOY PROJECTS YOU CAN BUILD

FREE FOLDING TV TRAY PLAN WITH ORDER, a \$3.50 VALUE! This 100 page book features 19 quality wood-working projects with over 190 photos! Each project has a complete detailed story with diagram, step-by-step construction photography and complete materials list. To receive your book and free plan send check or money order for \$11.95 postage paid to:

JONATHAN PRESS
P.O. BOX 19
CANNON FALLS, MN 55009

TIPS FROM YOUR SHOP (AND OURS)

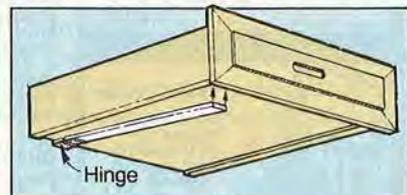
Continued from page 20

SECURING DRAWERS WITHOUT LOCKS

Young and inquisitive hands have an affinity for exploring drawers in gun cabinets and other off-limits areas. You could install a lock on each drawer, but that's expensive and may require keeping track of several keys.

TIP: Install a 1"-wide blocking stick on the bottom of the drawer so it drops into place behind the frame of the cabinet front. A finger hole bored through the dust panel (see drawing below) provides a way to release this latch and open the drawer from below. Only the bottom drawer in a series like this requires a lock. 🐿

—Asa M. Reece, Plantation, Fla.



MORE HELPFUL TIPS

You'll find other shop tips scattered throughout this issue of WOOD® magazine. To help you find them, here's a listing:

- We've come across a terrific self-adhesive material that makes quick work of enlarging or reducing patterns, and transferring them to projects. See the article on stain-resist finishing, beginning on page 46.
- We'll show you how to "clamp" pie-shaped pieces together without the use of clamps. See the floor-lamp project on page 58.
- Do you know how to cut raised panels on a tablesaw? We show you how in the country project on page 76.
- Here's a way to pry apart two pieces of wood joined with double-faced tape, without marring them. See the recipe-card-box project on page 78.
- You can make your own paper decals. See page 82.

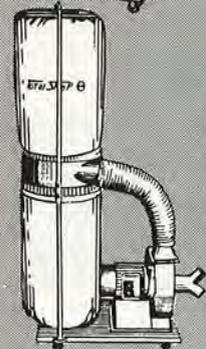
More New Items for '89



Dust Collector

- 1 hp, 110v
- 4" inlet
- Commercial quality
- Compact size

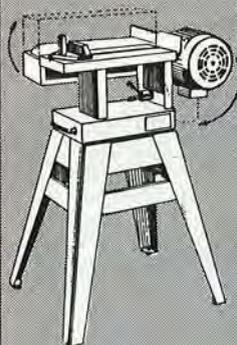
Reg. \$348.00
\$209.00
 (Shp. & Hdlg. \$30.00)



Industrial Dust Collector

- 2 hp, 110v
- Two 4" inlets
- 1185 CFM
- 125 lbs.

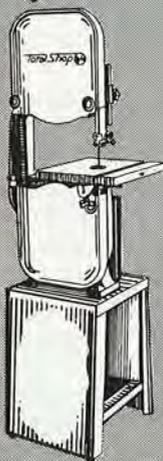
\$499.00 Value
\$339.00
 (ships freight collect)



MS-648 Sanding Machine

- Table tilts 2 ways for horizontal or vertical sanding
- ¾ hp
- 6" x 48" Band
- 17¾" Table

Reg. \$369.00
\$269.00
 (ships freight collect)



TS 14-56 14" Bandsaw

- Blade size up to ¾" wide
- Cast iron construction
- 180 lbs.
- ¾-hp

\$259.00
 (ships freight collect)

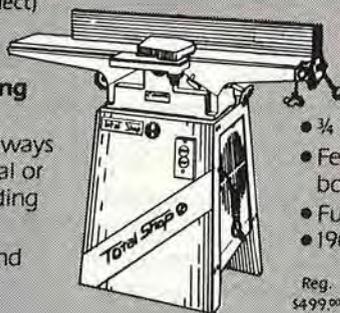


List \$1315
\$915

In less than a minute The Total Shop Multipurpose machine can be converted into any of five basic power tools necessary for any building project, yet it takes up less space in your shop than a couple of old trunks. The Total Shop multipurpose machine is strong, precise and versatile, not to mention priced so that owning your own woodworking shop is a real possibility and not a problem.

Call Toll Free ☎ **1-800-845-9356**

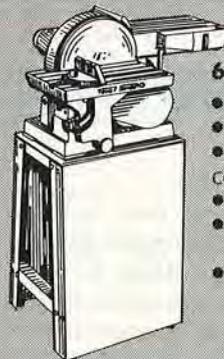
or in S.C. **288-4174**



6" Long Bed Jointer

- ¾ hp, 110v
- Fence tilts 45° both ways.
- Fully adjustable
- 190 lbs.

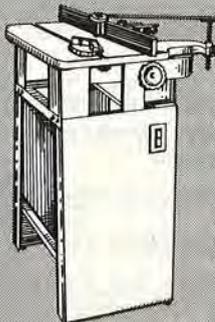
Reg. \$499.00
\$299.00
 (ships freight collect)



6" Belt Sander

- ¾ hp
- 6" x 48" belt
- Cast iron construction
- 152 lbs.
- 9" Sanding Disc Included
- Ball Bearings

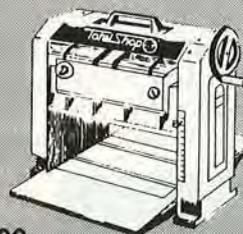
\$199.00
 (ships freight collect)



Wood Shaper

- ½" Spindle
- 1 hp
- Cast iron construction
- Precision fence
- 160 lbs.
- Ball bearings

Reg. \$499.00
\$239.00
 (ships freight collect)



12" Thickness Planer

- Depth of cut ⅛"
- Feed rate 26 fpm
- 69 lbs.
- Safety Switch
- All ball bearing

\$395.00
 (Shp. & Hdlg. \$20.00)

15" and 20" Planers also available

1 Hour Video Brochure



- YES! Please send me your free 24 page catalog.
- YES! Please send me your 1 hour video brochure [Enclose \$10.00 refundable deposit - specify VHS or Beta]

Total Shop®

Dept. 3

P. O. Box 25429, Greenville, SC 29616

Name _____
 Address _____
 City _____
 State/Zip _____
 Phone _____

FREE 24 PAGE CATALOG

Call Toll Free or Write for our newest catalog today **1-800-845-9356**

DUST COLLECTOR STAMPEDE CONTINUES



G1031

G1028/G1029

G1030

We have negotiated a multi-million dollar deal with the factory and are pleased to inform you of a huge promotional price-break on all the dust collectors we carry. This is a time-limited special and prices are subject to change without notice.



IMPORTS, INC.

WE WILL NOT BE UNDERSOLD - PERIOD!

- MODEL G1031:** Mini Dust Collector, features 2 bags, ½ H.P. motor. Stands 58" high, intake hole is 4", base measures 15" x 26". Weighs 75 lbs. **ONLY \$189⁹⁵** PLUS \$20.00 Shipping
- MODEL G1028:** Features 2 bags, 1 H.P., 12 amp. motor. Stands 76" high, 610 ft.³ min., base measures 20" x 35", one 4" intake hole. Weighs 185 lbs. **ONLY \$265⁰⁰** F.O.B. Bellingham, WA or Williamsport, PA
- MODEL G1029:** Features 2 bags, 2 H.P. motor that draws 10 amps at 110V and 20 amps at 220V, 1182 ft.³ min., base measures 20" x 35", two 4" intake holes. Weighs 210 lbs. **ONLY \$295⁰⁰** F.O.B. Bellingham, WA or Williamsport, PA
- MODEL G1030:** Features 4 bags, 3 H.P. single phase motor that draws 18 amps at 220V or 36 amps at 110V, 1883 ft.³ min., three 4" intake holes, base measures 21" x 46". Weighs 270 lbs. **ONLY \$410⁰⁰** F.O.B. Bellingham, WA or Williamsport, PA

NEW TOLL FREE LINES

(FOR ORDERS AND CATALOG REQUESTS ONLY)

EAST OF THE MISSISSIPPI: 1-800-523-GRRR (717) 326-3806

← (For Orders & Catalogs Only) →
← (For Inquiries & Customer Service) →

WEST OF THE MISSISSIPPI: 1-800-541-5537 (206) 647-0801

88-160

PRODUCTS THAT PERFORM

Print this article

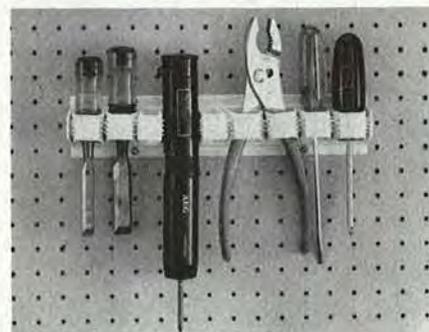
A GRIPPING IDEA

The Super Klip Grip may be the best idea for shop organization since the peg board. Made by the Super Glue folks, the heavy-duty 8-loop model held everything I threw at it in the garage, from wrenches to fishing poles to screwdrivers, and would double as a hanger for most of your garden tools. The plastic clips won't mar tools, which can fit either be-

tween or inside the clips. Models come with 3, 8, 12, or 24 loops in brown or white. A 5-loop mini version will hold objects as small as glue brushes.

—Tested by Steve Oswalt, a Des Moines woodworker and frequent contributor to *WOOD*® magazine.

Super Klip Grip, suggested retail \$2.49–6.49 at True Value hardware stores nationwide.



A POUNDING SUCCESS

For a small investment, you'll protect your fingers and improve your dexterity in tight places with Sure Hit, a new nail-starting attachment. The device slid easily onto my hammer and held a wide variety of nails. To my surprise, Sure Hit let go of the nail and flipped out of the way, without fail, following every blow I made. I found it easy to hit the area in-

tended for the nail, but I wouldn't recommend using the device for precise placement of nails. It's not something you'll need to drive every nail, but for overhead work and hard-to-reach places, Sure Hit is a sure smash.

—Steve Oswalt
Sure Hit, \$2.95 ppd. from Lamar Hammer Inc., 3029 Fleetwood Ave., Baltimore, MD 21214.

Continued on page 26



Get in on the PROFITS in SMALL ENGINE service and repair Start your own money



BEAT INFLATION!

Cash in on the huge demand for small engine repair.

Work part time, full time right at home - we help you every step of the way.

making business!

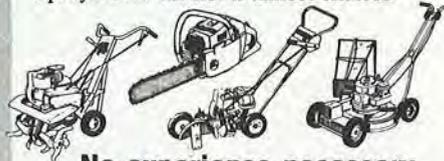
In just a short time, you can be ready to join one of the fastest growing industries in America... an industry where qualified men are making from \$25.00 to \$30.00 per hour... and that's just for labor. Parts, engines and accessories add even more to the profits.



Because the small engine industry has grown so quickly, an acute shortage of qualified Small Engine Professionals exists throughout the country. In fact, it's not unusual for a good small engine man to be three to four weeks behind in the summer and at least a week behind in the winter. When you see how many small engines are in use today, it's easy to understand why qualified men command such high prices — as much as \$49.95 for a simple tune-up that takes less than an hour!

65-million small engines are in service today!

That's right — there are over sixty-five million 2-cycle and 4-cycle small engines in service across the U.S.A. That's the official count from the Engine Service Assn., and new engines are being built at a rate of one-million per month! With fully accredited and approved Foley-Belsaw training, you can soon have the skill and knowledge to make top money servicing these engines. Home-owners and businessmen will seek you out and pay you well to service and repair their lawnmowers, tillers, edgers, power rakes, garden tractors, chain saws, mini-bikes, go-carts, snowmobiles, generators, snowblowers, paint sprayers... the list is almost endless.



No experience necessary.

You don't need to be a 'born mechanic' or have prior experience. If you can read, you can master this profitable trade right at home, in your sparetime, without missing a single paycheck. Lessons are fully illustrated — so clear you can't go wrong.

You receive trade secrets and business plans.

We guide you every step of the way, including tested and proven instructions on how to get business, what to charge, how to get free advertising, where to get supplies wholesale... all the "tricks of the trade"... all the inside facts you need to assure success right from the start.

Increased Income

"I've had about 8 years experience repairing small engines... but repairs were only minor... until I started the Foley-Belsaw Course."



Walter H. Strick Campbell, California

With our famous 'learn-by-doing' training method, you get practical 'hands-on' experience with specialized tools and equipment that you'll receive with your training *plus* a brand-new 4HP engine — *all yours to keep!*

SEND FOR FREE FACTS!

You risk nothing by accepting this offer to find out how Foley-Belsaw training can give you the skills you need to increase your income in a high-profit, recession-proof business of your own.

Just fill in and mail coupon below (or send postcard) to receive full information and details by return mail. **DO IT TODAY!**

You get all this Professional equipment with your course, PLUS 4 H.P. Engine... ALL YOURS TO KEEP... All at NO EXTRA COST.

Send TODAY for this fact-filled **FREE BOOKLET!**



FOLEY-BELSAW INSTITUTE

6301 Equitable Rd. Dept. 51508
Kansas City, Mo. 64120

There is **NO OBLIGATION** and **NO SALESMAN** Will Call—ever!

FOLEY-BELSAW INSTITUTE

6301 Equitable Rd. Dept. 51508
Kansas City, Mo. 64120



YES, please send me the FREE booklet that gives full details about starting my own business in Small Engine Repair. I understand there is no obligation and that no salesman will call.

Name _____

Address _____

City _____

State _____ Zip _____



Tells how you quickly train to be your own boss in a profitable Sparetime or Fulltime business of your own **PLUS** complete details on our **30-Day NO RISK Trial Offer!**





FREE CLOCK KIT CATALOG!

FROM

VIKING

Quality Clock Kits

- Factory Direct Grandfather Clocks
- Assembled Clocks
- Clock Kits

SAVE XTRA 10%

BUY ANY 3 or MORE KITS

Our catalog is filled with factory direct clocks and clock kits, now you can have our catalog ABSOLUTELY FREE. Just call our toll free number or fill in this coupon and mail it today! To: Viking Quality Clock Kits, P.O. Box 1139, Dept. WM89, Fairhope, AL 36533.

CALL TOLL FREE
For Customer Service

1-800-321-1089

If Busy: 205/928-3466

Please Print Clearly

NAME.....

ADDRESS.....

CITY.....

STATE.....ZIP.....

PRODUCTS THAT PERFORM

Continued from page 24

CROWN GIVES ROYAL FLUSH TO BOARDS



With standard bar or pipe clamps, getting a flush alignment across the surface of edge-glued boards can be a tricky and frustrating business. Shopsmith's double bar clamps make quick, easy work of this job while giving a flush surface. The result: You save hours of sanding later. The secret of these clamps lies in the crown on the facing inside edges of the wooden beams. When you tighten the clamp, its crown assures that inside and outside boards receive equal pressure.

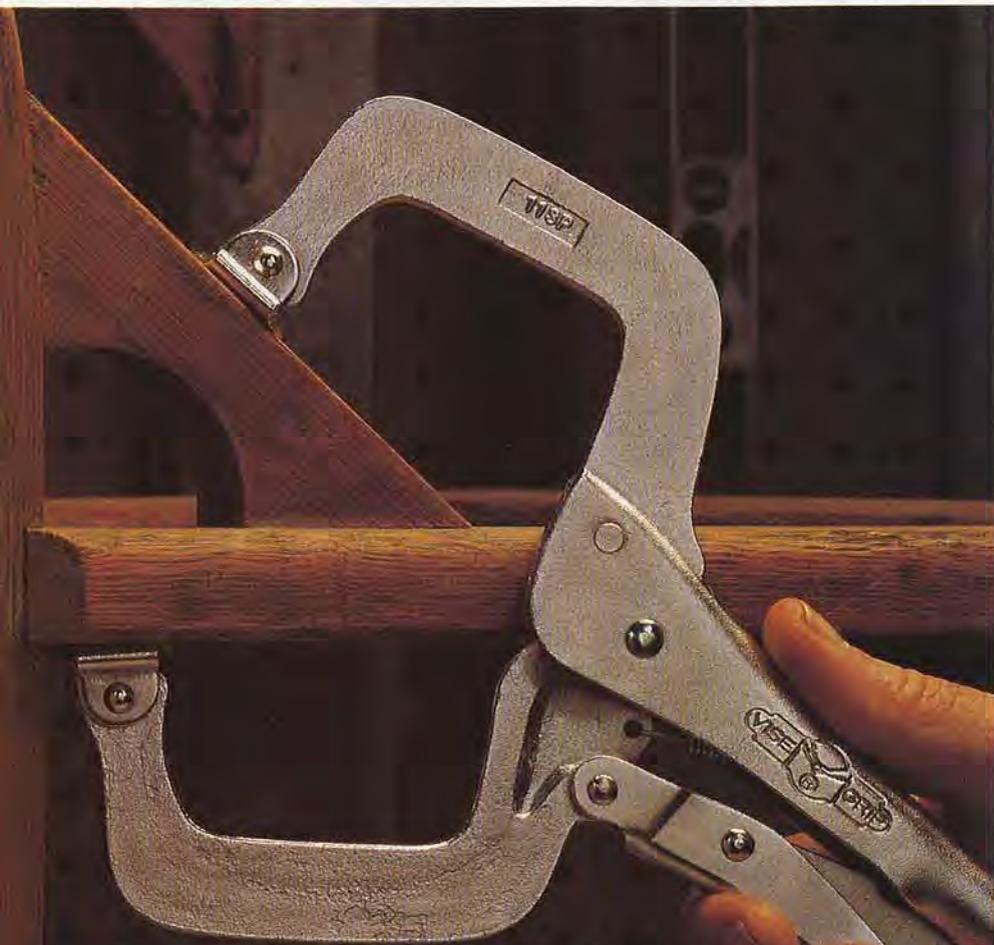
The lightweight clamps slip easily into position and a few turns of the clamps' wing nuts simultaneously apply pressure to the sides, top, and bottom of the boards. Although the clamps are coated to prevent the inevitable glue squeeze-out from sticking to them, I placed waxed paper between the clamps and stock to keep the bars glue-free.

I found the maximum spacing of the clamps to be 24", so a set of clamps can represent a major investment. But if you glue-up a lot of boards for width, these clamps will pay much-appreciated dividends in time saved sanding.

—Tested by Jim Boelling,
WOOD® magazine's Project Builder

Shopsmith double bar clamps, available in 24" (\$32 each), 36" (\$36), and 48" (\$39) lengths (prices do not include postage or state sales tax) from Shopsmith, 3931 Image Drive, Dayton, OH 45414. Call 800-762-7555 for more information.

Continued on page 28



THINK ALL C-CLAMPS ARE THE SAME? THINK AGAIN.

Not all C-Clamps are created equal. For a tradition of quality and performance, choose VISE-GRIP® Locking C-Clamps.

Old fashioned screw-type C-Clamps just don't compare with VISE-GRIP clamps. Unique self-leveling swivel pads protect work. They're easy to use, lock on quickly and provide a sure grip on any surface.

With nine sizes—ranging from 4" to 24"—there's a VISE-GRIP Locking C-Clamp for every job.

Don't go round and round with screw-type C-Clamps when you can have the quality and efficiency of VISE-GRIP Locking C-Clamps.

VISE-GRIP. THE ONLY NAME YOU NEED TO KNOW IN LOCKING HAND TOOLS.

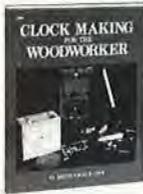
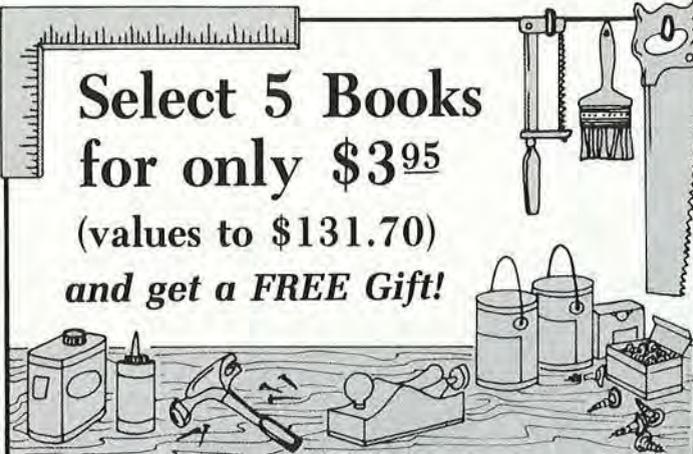
© 1987 1988 Petersen Manufacturing Co., Inc. Lincoln, Nebraska 68508



Compare this offer with any other book club for Price • Quality • Benefits • Selection!

An absolutely no-risk guarantee.

Select 5 Books
for only \$3⁹⁵
(values to \$131.70)
and get a FREE Gift!



1648P \$14.95



2909P \$12.95



2629 \$24.95



2971 \$17.95



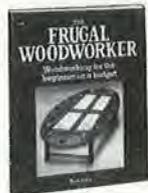
2915 \$24.95



1465P \$10.95



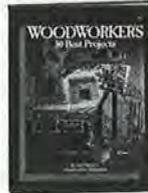
3056 \$25.95



2702P \$12.95



3014 \$21.95



3021 \$23.95



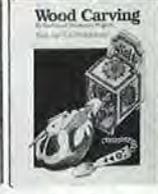
1122 \$21.95



2884 \$23.95



2964P \$6.95



2979 \$22.95



2774P \$14.95



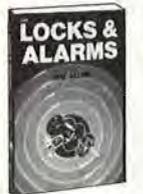
2816 \$21.95



2714 \$24.95



1675P \$9.95



1559P \$15.95



1573P \$16.95



2944 \$24.95



1928 \$18.95

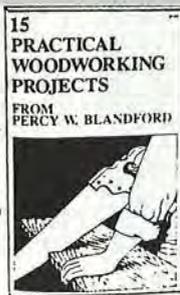
Membership Benefits • Big Savings. In addition to this introductory offer, you keep saving substantially with members' prices of up to 50% off the publishers' prices. • **Bonus Books.** Starting immediately, you will be eligible for our Bonus Book Plan, with savings of up to 80% off publishers' prices. • **Club News Bulletins.** 14 times per year you will receive the Book Club News, describing all the current selections—mains, alternates, extras—plus bonus offers and special sales, with hundreds of titles to choose from. • **Automatic Order.** If you want the Main Selection, do nothing and it will be sent to you automatically. If you prefer another selection, or no book at all, simply indicate your choice on the reply form provided. As a member, you agree to purchase at least 3 books within the next 2 years and may resign at any time thereafter. • **Ironclad No-Risk Guarantee.** If not satisfied with your books, return them within 10 days without obligation! • **Exceptional Quality.** All books are quality publishers' editions especially selected by our Editorial Board.

FREE when you join!

15 Practical Woodworking Projects From Percy Blandford

Fascinating projects from master craftsman Percy Blandford include toys, furniture, a go-cart, and more!

a \$6.95 value!



1763P \$10.95



1971P \$12.95



1810 \$18.95



2863 \$24.95



3005 \$21.95



1828 \$18.95



2994 \$21.95



1148P \$9.95



HOW-TO BOOK CLUB®
Blue Ridge Summit, PA 17294-0800

Please accept my membership in the How-To Book Club® and send the 5 volumes listed below, plus my FREE copy of 15 Practical Woodworking Projects From Percy Blandford (3124P), billing me \$3.95 plus shipping and handling charges. If not satisfied, I may return the books within ten days without obligation and have my membership cancelled. I agree to purchase at least 3 books at regular Club prices (plus shipping/handling) during the next 2 years and may resign any time thereafter.

Name _____
Address _____
City _____
State/Zip _____ Phone _____
Signature _____

Signature of parent or guardian required for all new members under 18 years of age.
Valid for new members only. Foreign applicants will receive special ordering instructions.
Canada must remit in U.S. currency. This order subject to acceptance by the How-To Book Club®. BHW-189

(Publishers' Prices Shown)
• All books are hardcover unless number is followed by a "P" for paperback.



The originals are in America's museums.
The reproductions are in our catalog.



Sheraton
Field Bed
circa 1790



Rush me your
40 page color catalog of affordable museum reproduction furniture,
furniture kits, lighting, brass, pewter, accessories, paint and stain.
I have enclosed \$3 for a subscription.

Name _____
Address _____
City _____ State _____ Zip _____

Chassel Colonials
by HAGERTY

499AB Ship St. Cohasset Harbor, MA 02025
Tel. (617) 383-0110 MasterCard & Visa

PRODUCTS THAT PERFORM

Continued from page 26

HTC MAKES LIFE EASIER



"Why don't all wheels roll this easily?" Jim Boelling, *WOOD* magazine's Project Builder, asked as we took our first HTC mobile base unit for a test drive in our shop. "These roll great!"

Since we put our bandsaw and tablesaw on HTC bases one year ago, we haven't been disappointed. We constantly roll woodworking equipment in and out of the shop, across uneven floors, and over thresholds. The HTC bases stand up to the work.

Unlike some mobile bases with four wheels, the three-wheel HTC system compensates for uneven floors—our machines don't wobble wherever we put them. The HTC units have two additional pluses for stationary power tools: The bases elevate the machine only 3/4", and the braking knobs perform a solid job locking wheels when it's time to work.

—Tested by Carl Voss,
WOOD® magazine's Managing Editor

HTC manufactures mobile base units for more than 400 standard models of stationary power tools. HTC also will make a base to your design specifications. The bases sell for between \$68 and \$300 (most common models about \$100). Write to: HTC Products, Inc., 120 E. Hudson, Royal Oak, MI 48067.

Continued on page 30



MIRRORA®
THE
HAND
MIRROR
COMPLIMENT

PERFECTLY
BEVELED
MIRROR

- The finishing touch for all woodcrafters
- Ovals and circles, in 11 sizes, 3 colors
- 1,000,000 pieces in stock - UPS delivery-ready-to-ship
- Any shape or size can be beveled or fabricated
- Glass mirror for all woodcrafting needs - shelves, doors
- Any size - thickness up to 1"
- Call 1-800-MIRRORA NOW to place orders and get our full-line color catalog

FLORAL
Glass & Mirror, Inc.

895 Motor Parkway
Hauppauge, NY 11788
516/234-2200
800-647-7672



PORTER-CABLE
PROFESSIONAL POWER TOOLS

555 \$159



081 \$249



3380 \$367



Top \$527

**We've got the latest
in plate joiners**

Biscuits #0, #10, #20
or assorted pack of 1000.....\$25.95
Glue bottle.....\$18.00

Free Freight Quantities limited



THE SOURCE®
7305 Boudinot Drive
Springfield, VA 22150
(703) 644-5460

Send \$2.00 for
our complete
catalog

US 800 452-9999
VA 800-468-1778

DELTA		
34-782	10" 3 HP UNISAW W/UNIFENCE	
34-783	10" 5 HP 3PH W/ UNIFENCE	
43-375	3 HP 1 PH HD/Shaper	
37-350	8" DJ-20 Joiner W/STAND	
31-730	8" Belt 12" Disc	
33-890	12" RADIAL ARM SAW	
40-601	18" VS SCROLL SAW	
33-990	10" RADIAL ARM SAW	
22-651	RC 33 13" PLANER	
50-179	3/4 HP DUST COLLECTOR	
50-180	1 HP DUST COLLECTOR	
50-181	2 HP DUST COLLECTOR	
34-985	1 PH STOCK FEEDER 110V	
34-994	1 PH STOCK FEEDER 230V	
34-995	3 PH STOCK FEEDER 230V	
33-150	8-1/4" SAW BUCK	
34-444	10" CONTR. SAW COMPLETE	
31-380	4" x 13 1/2" EDGE SANDER	
34-670	10" MOTORIZED SAW	
40-150	15" SCROLL SAW	
31-050	1" x 30" SANDER	
23-700	WET DRY GRINDER	
31-460	4" BELT 8" DISC	
17-300	16-1/2" DRILL PRESS	
34-897	DELTA UNIFENCE	
CALL FOR OUR LOW PRICES YOU'LL BE GLAD YOU DID!		

MILWAUKEE		
0213-1	3/8" 9.6 V CORDLESS W/CASE	\$145
0228-1	3/8" PISTOL DRILL	87
0234-1	1/2" MAGNUM DRILL	107
0375-1	3/8" CLOSE QUARTER DRILL	115
0379-1	1/2" CLOSE QUARTER DRILL	139
1676	HOLE HAWG W/CASE	224
5397-1	3/8" HAMMER DRILL KIT	199
6368	7-1/4" SAW W/CASE, CT BLADE RIP GUIDE	124
6508	VS SAWZALL W/CASE	126

FREUD		
JS-100	PLATE JOINER W/CASE	\$153
CC-300	DOOR SYSTEM SHAPER SET	278
94-100	DOOR SYSTEM ROUTER SET	158
FB-107	7 PC. FORSTNER BIT SET	49
FB-100	16 PC. FORSTNER BIT SET	149
DS-308	8" CT DADO SET	109

PORTER-CABLE		
330	SPEED BLOC SANDER	\$ 53
351	3" x 24" SANDER	118
352	3" x 24" SANDER W/BAG	118
360	3" x 24" SANDER W/BAG	176
361	3" x 24" SANDER	169
362	4" x 24" SANDER W/BAG	186
363	4" x 24" SANDER	181
617	7-1/4" SAW 13 AMP	104
316	7-1/4" SAW 13 AMP	104
314	4-1/2" TRIM SAW	124
690	1-1/2 HP ROUTER	114
9118	PORTA PLANE KIT	188
555	PLATE JOINER W/CASE	158
505	1/2 SHEET PAD SANDER	109

EMGLO		
AM39-HC4V3/4 HP TWIN TANK		\$268
AM78-HC4V1-1/2 HP TWIN TANK		298

BOSCH		
1611	3 HP PLUNGE ROUTER	\$189
1604	1-3/4 HP ROUTER	110
1604K	1-3/4 HP ROUTER KIT	159
1606	1-3/4 HP D-HANDLE ROUTER	145
1608	5.6 AMP. LAM. TRIMMER	79
1609K	3 IN 1 TRIMMER KIT	163
3270D	3 x 24 SANDER W/BAG	126
1272	3 x 24 SANDER	163
1272D	3 x 24 SANDER W/BAG	168
1273DVS	4 x 24 VARIABLE SPEED SANDER W/BAG	188
921VSRK	9.6V CORDLESS W/CLUTCH	137
91068	1/2" MIGHTY MIDGET VSR	106
1347	4-1/2" MINI GRINDER	84
1654	7-1/4" SAW W/CT BLADE	98
1581VS	TOP HANDLE JIG SAW	123
1632VSK	VS RECIP. SAW W/CASE	129

SENCO		
SN-4	FRAMER 2"-3-1/4"	\$477
SN-2	FRAMER 2"-3"	424
SFN-2	FINISH NAILER 1-1/2"-2-1/2"	385
SFN-1	FINISH NAILER 1"-2"	267
SKS	1/4" CROWN STAPLER 7/8"-1-1/2"	245
LS-2	PINNER 5/8"-1"	239
LS-4	PINNER 3/4"-1-1/4"	239

SKILL
2735-04 12V. VSR
\$117 CORDLESS
DRILL KIT
W/EXTRA BATTERY

HITACHI		
C-8FB	8-1/2" COMPOUND MITER SAW	\$484
C-15FB	15" MITER SAW	369
TR-12	3HP PLUNGE ROUTER W/ACCESS. VALUE AT \$60	165
D-10DD	9.6V 2 SPEED CORDLESS	89
F-20A	3-1/4" HAND PLANER	96

MAKITA		
LS1020	10" MITER SAW	\$226
LS1430	14" MITER SAW	439
5402A	16-5/16" CIRC. SAW	329
5201NA	10-1/4" CIRC. SAW	299
5077B	7-1/4" HYPOID CIRC.SAW	139
5007NB	7-1/4" CIRC. SAW	114
5007NBA	7-1/4" CIRC. W/ELEC. BRAKE	124
1900BW	3-1/4" PLANER W/CASE	109
1100	3-1/4" PLANER HD W/CASE	193
2708W	8-1/4" TABLE SAW	244
3612BR	3 HP PLUNGE ROUTER	188
3601B	1-3/8 HP D-HANDLE ROUTER	126
9030	1-1/8" x 21" BELT SANDER	135
9900B	3" x 21" BELT SANDER W/BAG	137
9924B	3" x 24" BELT SANDER	133
9824DB	3" x 24" BELT SANDER W/BAG	145
9401	4" x 24" BELT SANDER W/BAG	159
JR3000V	RECIPRO SAW W/CASE	121
6510LVR	3/8" VSR DRILL	85
6093DW	3/8" CORDLESS KIT 2SP VSR	126
EXTRA	9.6 VOLT BATTERY W/PURCHASE	26
B04510	4 3/8" x 4" FINISH SANDER	48

POWERMATIC Model 180 18" Planer
7 1/2 HP, 3 PH or 5 HP, 1 PH motor
Knife Grinder, Sectional Roll and
Chipbreaker.

Model 66 Table Saw
50" Blaesayer Rip Fence, 3 HP
1 PH or 5 HP, 3 PH motor.

ENTIRE LINE AVAILABLE
AT UNBELIEVABLE DISCOUNTS.
WHEN YOU CALL ASK FOR TOM
YOU HAVE THE OWNER.
NOT JUST AN ORDER TAKER.

TARHEEL FILING CO., INC.
CALL TOLL FREE 1-800-322-6641
LOCAL 919-967-6173

MAIL CHECK OR MONEY ORDER TO TARHEEL FILING
300 SOUTH ELLIOTT RD, CHAPEL HILL, N.C. 27514
NO COD'S PLEASE. ERRORS SUBJECT TO CORRECTION

PLEASE MENTION THIS AD WHEN YOU CALL!
ORDERS PLACED BY VISA, MASTERCARD, CASHIER
CHECKS OR MONEY ORDERS WILL BE SHIPPED
THE SAME DAY. ALLOW 2-3 WEEKS FOR
PERSONAL OR COMPANY CHECKS.

FREE FREIGHT ON PORTABLES.
TELL US ABOUT OUR COMPETITORS PRICES.
WE TRY NOT TO BE UNDERSOLD.

NEW! "Quad-Drive" DRUM SANDER

with Infinitely Variable Power Feed!



At last! A complete-feed Drum Sander at an affordable price! Choose from 12" and 26" models.

SAVES TIME...IMPROVES RESULTS! Use this high-tolerance machine for light dimensioning as well as the finest finish work. Now you can add new beauty to each woodworking project...save hours of tedious hand sanding! In a matter of seconds you can produce a satin-smooth finish impossible to duplicate with hand methods or hand-held power sanders...no more low spots, waves or cross-grain marks.

SEND TODAY FOR FREE FACTS!

Send for complete facts on how you can try this low-cost tool in your own shop for one full month without risk. See how the sander can dimension and finish-sand cabinet pieces, resawn stock, paneling, toys, tabletops, knees, burls, crotches and much, much more! You'll soon find it's one of the most valuable tools in your shop! Made in U.S.A. Easy Terms.

Call Toll-Free 1(800)538-4200, Ext. 2428

- CHECK THESE ADVANTAGES!**
- NEW INFINITELY VARIABLE FEED RATE gives you total control in any sanding situation!
 - EXCLUSIVE QUAD-DRIVE FEED SYSTEM...four, power-feed rollers for maximum traction. Eliminates oversanding at first and last few inches of a board!
 - NEW FELT-BACKED ABRASIVE mounts in just seconds to Velcro covered drum. The harder you sand, the tighter it stays! Eliminates stretching...allows fast removal and re-use!



YES! Please rush me your FREE Information Kit plus details on your 30-DAY FREE TRIAL GUARANTEE!

**Woodmaster Tools, Dept. RW28,
2908 Oak, Kansas City, MO 65108**

NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____

CIRCULAR SAW



CHOICE SALE

YOUR CHOICE

\$109⁹⁵

PORTER-CABLE
PROFESSIONAL POWER TOOLS

- 7¹/₄" #315-1
- 6" #345 Saw Boss

Makita

- 7¹/₄" #5007NB

RYOBI

- 7¹/₄" #W640C

Milwaukee

- 7¹/₄" #6365

BOSCH

- 7¹/₄" #1654

- We honor all Freud nationally advertised specials.
- Call or write today for current prices on other tools/accessories.
- Prices quoted, delivered prepaid on \$75 minimum order.
- Visa MasterCard accepted.

CALL TODAY FOR NEXT DAY SHIPPING.

803-779-3131 Ext. 10



PRODUCTS THAT PERFORM

Continued from page 28

A NEW KIND OF TAPE RECORDER



The incredibly simple MezurMark-Too makes so much practical sense that I have to wonder why it's not standard on every tape measure. You attach it to the side of your tape case, ever handy to

record a measurement. Pencil, ballpoint, and felt-tip pens all write well on the slate. A thumb wipe or rag removes pencil marks and, with a little moisture, clears away ink.

The MezurMarkToo comes in one size—2¹/₂ × 2³/₄"—so you may have to cut it to fit your tape measure. It tends to crack as you cut it with tin snips, so cut it a little large and sand it down to size. A scrollsaw also works well.

—Steve Oswalt

MezurMarkToo, \$2 ppd., from Downey Services, PO Box 1277, Oak View, CA 93022. Call 805/649-1364.

ONE-HANDED VISE

Only your imagination and the thickness of your stock limits the number of uses you'll find for Multi-Stop, a well-machined, easy-to-handle attachment for fences and miter gauges. The jaws on this mini-vise open to about 2" and have a comfortable heft. With only the flip of a locking arm, the unit didn't slip on any application I tried. The accompanying instructions show nine uses involving six power tools—radial arm, table, and band saws, a drill press, shaper, and router.

—Steve Oswalt



Multi-stop work positioner (cat. No. 12D32), \$29.95 ppd. from Woodcraft Supply Corp., 41 Atlantic Ave. Box 4000, Woburn, MA 01888. Call 800-225-1153.

THREE-IN-ONE TAPE



The Mark-O-Matic tape measure doubles as a pencil and moonlights as a compass. Straight-edge measures take a little practice; to avoid a crescent-shaped marking

line, I slid the tips of the tape along as I marked. Front and back pencil leads allow a variety of measuring techniques, including a nifty one for transferring the length of an enclosed alcove onto a work piece. Inserting a pin into a hole in the tape makes it a compass. Extra leads and two pins store in a covered pocket.

—Steve Oswalt

Mark-O-Matic (cat. No. 1081510), \$14.99 ppd. from Fine Tool Shops, Box 7091, 170 West Road, Portsmouth, NH 03801. Call 800-533-5305, 9 a.m.—4 p.m. EST.

rbindustries family of precision, quality tools, American - made and affordably priced



The RBI HAWK Scroll Saw

Family of Precision Scroll Saws

America's largest line of Precision Scroll Saws can unlock your creativity. With **6 models to choose from**, there is one suited for **your needs**. It takes a real woodworker to build a first class tool and that's what RBI is all about. We're American Woodworkers building quality, affordable tools with pride for you - the American Woodworker. Send today for your free information kit to see why rbi is the best value for your woodworking dollars.

The RBI JOINT MACHINE

Precision Joint Making • Spindle Shaper • Router Table • Inverted Pin Router

Create beautiful wood joints so precise, you may be tempted not to glue them! Making finger joints, mortise and tenons, all types of dovetail joints, mitered joints, and raised panel doors has never been easier. Your rbi Joint Machine can also convert into a spindle shaper or an inverted pin router with accessory attachments. Send for your free fact kit today!



The RBI WOODPLANER™

Planer • Sander • Molder • Gang Rip Saw

Four essential woodworking functions designed into one precision, dependable machine. Plane your rough stock into dimensioned lumber to the size you want, save yourself hours of hand sanding using the sanding attachment, you can edge cut and width dimension your stock with the power-fed gang rip saw attachment, or create beautiful standard or custom moldings out of any wood you want with the molding head assembly. All these functions without having to remove the knives from the cutterhead and the time and trouble needed to reset the planer knives again like other machines on the market. Send today for your free fact kit on this extraordinary tool!

Call Toll Free 1-800-535-8665
(In MO 816-884-3534) for information
Dealer Inquiries Invited

rbindustries
1801 Vine St.
PO Box 369
Harrisonville, MO
64701

Yes, Please rush me a free fact kit on:

Hawk Scroll Saws Woodplaners
 Joint Machine (Mark Interest)

Name _____

Address _____

City _____

State _____ Zip _____ W26

TOOLCITY

CALL TOLL FREE

ORDERS ONLY

INSIDE CALIF 1-800-826-7819

OUTSIDE CALIF 1-800-423-7899

CUSTOMER SERVICE
1-800-327-6250

PRICE QUOTES

1-213-802-1236

8 A.M. to 5:30 P.M. PST
14136 E. FIRESTONE BLVD.
SANTA FE SPRINGS, CA 90670

NEED IT QUICK?

FEDERAL EXPRESS
SHIPPING AVAILABLE



ALL ORDERS SHIPPED UPS FREIGHT
PREPAID (CONTINENTAL USA) ON
ORDERS \$50. OR MORE. SINGLE
ITEMS WEIGHING 70 LBS. OR MORE
ARE SHIPPED F.O.B. SANTA FE
SPRINGS, CA. CALL FOR DISCOUNT
FREIGHT RATES. SALE PRICES,
LIMITED TIME ONLY AND SUBJECT
TO CHANGE WITHOUT NOTICE. WE
ACCEPT VISA, MASTERCARD, DISCOVER,
MONEY ORDERS, PERSONAL CHECKS,
SCHOOL PURCHASE ORDERS AND AMERICAN
EXPRESS CARDS. SORRY WE ARE
UNABLE TO SHIP C.O.D.



OUR GIANT 500 PAGE FULL LINE
CATALOG IS YOURS FREE WITH
ORDER OF \$50. OR MORE OR ONLY
\$5.00 EA.

PORTER+CABLE



\$159

NEW!
ADJUSTABLE
FENCE FOR THE
PORTER-CABLE
555

- * Tilts 0-45°
- * Slides parallel up & down
- * Precision accuracy
- * Screws right on, no drilling or tapping

INTRODUCTORY
OFFER **\$59.95**

555 Bisquit joiner with case **\$159**

555A Bisquit joiner with adjustable fence & metal case **\$199**

AFPC adjustable fence for 555 **59.95**

0-10-20 Bisquits **29**

PORTER+CABLE



NEW!

\$149

9850 Porter-Cable's New 12V cordless Drill Kit With Metal Case, Charger, Battery and insert bit.



NEW!

\$139

9345 Saw Boss Kit With metal Case, Plywood Blade and Combo Blade.

HITACHI



\$169

TR12 3 HP Plunge Router with \$60.00 Accessory Package.

You get:

- * Straight guide
- * Micro guide holder
- * Roller guide
- * 1/4, 3/8 and 1/2" collets
- * Template guide
- * Template guide adapter
- * 1/2" carbide straight bit

BOSCH



\$159

1581 VSK Top-handle jig saw kit with metal case **\$159**

Makita



\$49.95

With Free 3M Stik-It Pad!

B04510SP Makita's Industrial Pad sander with both Felt and 3M Stik-It Pad.



NEW!

\$139

6012HDWX Makita's New Cordless Drill with Keyless chuck. Comes with metal case, charger, battery and Phillips bit.



\$169

3612B 3 H.P. Plunge Router with 1/4 & 1/2" Collets.



\$299

#3338 2 1/4 H.P. electronic variable speed plunger router.

We carry the complete line of Elu products.



\$389

10-12" Contractor's Table Saw with Stand, Cast Iron Extensions & Table, 2 H.P. Ball Bearing Motor, Mitre gauge and Jet Lock Fence. 110-220V.



\$369

Dual Bag Dust Collector
2 H.P. Ball Bearing Motor, Connection, Full Swivel Casters, 1182 CFM, 110-220V.

Same As Above Except 3 H.P., 4 Bags and 1883 CFM. **\$695**

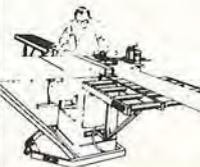


PEDESTAL
ROLLER
Height adjustable,
collapsible



HTC Foldable Roller Stand

\$39.95
or Two for
\$69.95



Call for prices on
HTC Products!



- | | |
|----------------------|--------------|
| 28" Homeshop Fence | \$219 |
| 40" Homeshop Fence | \$229 |
| 52" Homeshop Fence | \$269 |
| 50" Commercial Fence | \$329 |
| Excaltur Rip Fence | \$389 |
| Paralock Rip Fence | \$339 |

POWERMATIC



Phone for prices
in Powermatic



Table Saw Lubricant
Dry Lubricant prevents rust and makes wood glide. Keeps router bits sharper too. **\$10.95**

freud



94-100 5pc Cabinet Set **\$179**
95-100 5pc Cabinet Set with 99PK-1 Multiform **\$229**

Both Sets Come With FREE Door making book!



90-100 15pc Carbide set **\$179**
91-100 13pc 1/2" Shank set **\$199**
91-102 6pc 1/2" Shank set **\$89**
91-104 6pc 1/2" Shank set **\$129**
92-100 26pc router bit set **\$295**



FB-107 7pc Forstner bit set **\$49**
FB-100 16pc Forstner set **\$179**

freud

FINE CUT-OFF CROSS CUT BLADES
LU73M008 8"X48T ATB **54**
LU73M009 9"X54T ATB **59**
LU73M010 10"X60T ATB **59**
LU73M012 12"X72T ATB **85**

PRECISION PLYWOOD BLADES
LU82M008 8"X48T TCG **59**
LU82M009 9"X54T TCG **64**
LU82M010 10"X60T **59**
LU82M012 12"X72T TCG **92**

COMBINATION BLADES
LU84M008 8"X40T COMB. **53**
LU84M009 9"X40T COMB. **53**
LU84M011 10"X50T COMB. **38**
LU84M012 12"X60T COMB. **69**

RIPPING BLADES
LM72M008 8"X24T FLAT TOP **43**
LM72M010 10"X24T FLAT TOP **36**
LM72M012 12"X30T FLAT TOP **65**

SUPER FINE CUT-OFF BLADES
TEFLON COATED

LU85M008 8"X64T ATB **869**
LU85M009 9"X72T ATB **75**
LU85M010 10"X80T ATB **59**
LU85M012 12"X96T ATB **99**
LU85M014 14"X108T ATB **119**
LU85M015 15"X108T ATB **149**

ATB = Alternate Top Bevel
TCG = Triple Chip Grind
SC-001 Saw Blade Stabilizer

CARBIDE DADO SETS
DS306 6" Dado **899**
DS308 8" Dado **1099**
AD800 8" Adjustable Dado **49**
JS-100 Joining Machine **169**
0-10-20 Bisquits box of 1000 **29**

freud

All Bits 1/2" Shank and are Carbide Tipped

Finger Joint Bit 99-037 **\$89**

Door Pull Bit 99-007 **\$59**

Lock Miter Bit 99-034 **\$79**

1/2 & 1/4 Corner Round Bit 99-044 **\$59**

Wedge Tounge Bit 99-032 **\$59**

Wedge Groove Bit 99-033 **\$59**

Drawer Joint Bit 99-240 **\$59**

Multi-Form Bit 99-PK1 **\$79**

35MM European Hinge Bit 3557R **\$29**

WC-106 6pc Chisel Set **\$39**
WC-110 10pc Chisel Set **\$59**



CONTEST INFORMATION

PRIZES

Divisions	Toys with Movable Parts	Toys Without Movable Parts
Grand Prizes: \$1,500 in merchandise		
Student (K-12) Home Hobbyist Professional	Total Shop Foley Belsaw AMI/Hegner	Black & Decker Delta Freud
First Prizes: \$250 in merchandise		
Student (K-12) Home Hobbyist Professional	Hitachi Makita Garrett Wade	Grizzly Skil Bosch
Special Citations: \$100 in merchandise (Five awards in each category)		
Student (K-12) Home Hobbyist Professional	Formby's Popular Science Book Club Woodmaster Tools	DML Dremel Minwax
All nonwinners eligible for drawing: \$1,400 Shopsmith Mark V 500 system \$1,000 in Porter-Cable merchandise \$500 in Ryobi merchandise \$250 in AEG merchandise 3 Ripstrates from Fisher-Hill Products (\$50 each)		

RULES

1. Toys must be your original design. A different approach to an existing toy would qualify. Please, do not enter toys with only subtle changes from published patterns.
2. Make projects no larger than 24x24x24". The primary material should be wood, but may incorporate other materials.
3. Please follow Consumer Product Safety Commission guidelines:
 - Nontoxic woods and wood finishes only;
 - No parts smaller than 1 1/4" square on toys for children under 3 years of age. No sharp corners or points;
 - Pull strings longer than 12" should not have beads or other attachments that could tangle and form a loop.
4. No purchase necessary. Complete an entry form, photocopy an entry form, or print Design-A-Toy at the top of a 3x5" card with your name, address, daytime phone number, and experience division. Mail with entry to: Design-A-Toy, WOOD® Magazine, 17th at Locust, Des Moines, IA 50336.
5. Entries must be received by February 1, 1989. All entries must be postpaid; collect entries will be refused. Attach an official entry label to each toy. Enter as many times as you wish.
6. Entry constitutes permission to use winner's name and photograph for promotional purposes. Employees and family members of Meredith Corporation, their affiliates and subsidiaries are ineligible.
7. All federal state, provincial, and local laws apply. Void where prohibited. Contest and Nonwinners Drawing void in Quebec. Canadian winners must correctly answer a skill-testing question, as required by law, to become an official winner.
8. Contest winners will be judged by a panel comprised of representatives from the U.S. Marine Corps Reserve, Meredith Corporation, and woodworking and toys experts, whose decision is final. Meredith Corporation will donate all entries to the U.S. Marine Corps Reserve Toys for Tots program.
9. All nonwinners in the contest are eligible for a random Nonwinners Drawing. Meredith Corporation, whose decision is final, will supervise the Nonwinners Drawing. Chances of winning depend upon the number of entries received.
10. Winners will be selected and notified by mail no later than August 20, 1989. For a list of contest and drawings winners, send a separate, self-addressed stamped envelope to Design-A-Toy,

Continued on page 90

SOUTHWEST Collection



Introducing Deft Desert Oak White Wood Stain and the New Southwest Collection. Now, offer your customers colors of a desert sunrise.



The Wood Finish People.

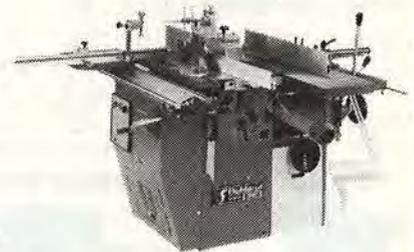


IRVINE, CA 92714 (800) 544-DEFT
ALLIANCE, OH 44601 (800) 458-DEFT

ROBLAND

The intelligent one-man shop.

- 10" Table Saw
- 12" Jointer
- 12" Planer
- Shaper
- Mortiser
- 50" Sliding Table



The ideal tool for a small workshop.

For Information and your nearest dealer call

LAGUNA TOOLS

2081 Laguna Canyon Road
Laguna Beach, California 92651

1-(800) 234-1976

Cascade Precision Tool Co.
 Box 848, Mercer Island, WA 98040
 Call Toll-Free: 1-800-235-0272



The RIGHT ARM CLAMP

One clamp does it all!
 Its secret is its pivoting arm, which, when positioned, squares the work for perfect joining, gluing, and fastening.
 Lifetime manufacturer's warranty. Instructions included.
 Suggested retail - \$1795

Cascade price - \$1000 - or 6 for \$5500

Thousands of satisfied customers tell us that our **S** carbide tipped router bits and shaper cutters are the best value on the market. These bits and cutters are terrific and available at factory-to-you prices. Experience the **S** feeling! Call or write for our new catalog featuring a great selection like:

CARBIDE TIPPED SHAPER CUTTER PANEL RAISER -
 3 WING, 5 PROFILES, 3MM THICK CARBIDE
 • 4-5/8" O.D. with 3/4" BORE (1/2" BUSHING)
 • 5-1/2" O.D. with 1-1/4" BORE (1" BUSHING)
\$6995

6 PC CARBIDE TIPPED CABINET SETS
 • 3 mm CARBIDE
 • 3/4" BORE W/ 1/2" BUSHING
ONLY \$179.95

13 Great Cabinet Sets including these popular Profiles:

SY 1280 SY 1283
 SY 1281 SY 1284

(1-1/4" Bore with 1" Bushing - ONLY \$249.95)

1/2" SHANK CARBIDE TIPPED CABINET DOOR SET
 • Big 3-1/2" O.D. PANEL RAISER 3 pc. set **\$179.95**
 • RAIL/STILE CUTTER
 • RAIL END CUTTER
 • PANEL RAISER ALONE **\$59.95**

Now Only \$149.95

BEX AIR STAPLER OR NAILER with 5,000 staples or nails **\$99.95**

SOLID CARBIDE SPIRAL BITS **\$15.00** each

FOR THE SHAPER

3 mm thick C-2 carbide, 3/4" Bore w/ 1/2" Bushing
Straight

SY-1212-1	SY-1212-4
1/4" \$24.95	3/4" \$32.95
SY-1212-2	SY-1212-5
3/8" \$26.95	1" \$35.95
SY-1212-3	SY-1212-6
1/2" \$28.95	1-1/2" \$36.95
	SY-1212-8
	2" \$59.95

FOR THE ROUTER!

Dovetail

PART NO.	D	PRICE
802	3/8	\$7
804	1/2	\$7
* 804-1/2	1/2	\$7
806	9/16	\$8
810	3/4	\$9
* 810-1/2	3/4	\$9
* 812-1/2	1	\$12

Flush Trimming

PART NO.	A	PRICE
S8012Y	3/8	\$7
S8016Y	1/2	\$8
* S8016Y 1/2	1/2	\$8
S8020	5/8	\$10
* S8020 1/2	5/8	\$10

Cove Bits

PART NO.	A	PRICE
S702Y	1/16	\$12
S704Y	1/8	\$12
S706Y	3/16	\$12
S708Y	1/4	\$13
S710Y	5/16	\$13
S712Y	3/8	\$13
S716Y	1/2	\$14
* S716Y-1/2	1/2	\$14
* S724Y-1/2	3/4	\$28

Corner Round

SY-1224-1	SY-1224-4	SY-1225-1	SY-1225-4
1/4" \$24.95	3/4" \$32.95	1/4" R \$24.95	3/4" R \$35.95
SY-1224-2	SY-1224-5	SY-1225-2	SY-1225-5
3/8" \$26.95	1" \$35.95	3/8" R \$26.95	1" R \$49.95
SY-1224-3		SY-1225-3	SY-1225-6
1/2" \$28.95		1/2" R \$28.95	1 1/4" R \$49.95

Now 3 Different Edge Beading Bits

\$20 each for Beading Bits 1403, SY29, SY35

2-5/8" O.D. Panel Raisers in the 5 profiles above - **\$29.95** each.

Also available with bearing and under cutter to simplify cutting of a precise 1/4" tongue and making of cathedral panels. **\$49.95**

Roundover

PART NO.	A	PRICE
S502Y	1/16R	\$11
S504Y	1/8R	\$11
S506Y	3/16R	\$11
S508Y	1/4R	\$11
S510Y	5/16R	\$12
S512Y	3/8R	\$14
S516Y	1/2R	\$16
* S516Y-1/2	1/2R	\$16
* S520Y-1/2	5/8R	\$20
* S524Y-1/2	3/4R	\$20
* S528Y-1/2	7/8R	\$34
* S532Y-1/2	1R	\$34
* S536Y-1/2	1-1/4R	\$40

Core Box

PART NO.	A	PRICE
S408	1/4	\$10
S412	3/8	\$10
S416	1/2	\$12
S420	5/8	\$14
S424	3/4	\$15
* S424-1/2	3/4	\$15
* S432-1/2	1	\$18
* S450-1/2	1-1/2	\$30

Beading

PART NO.	A	PRICE
S602Y	1/16R	\$11
S604Y	1/8R	\$11
S606Y	3/16R	\$11
S608Y	1/4R	\$12
S610Y	5/16R	\$13
S612Y	3/8R	\$15
S616Y	1/2R	\$16
* S616Y-1/2	1/2R	\$16
* S624-1/2	3/4R	\$20

* Indicates 1/2" shank.

Bull Nose

PART NO.	A	PRICE
SY9-1	1/4	\$14
* SY9-1 1/2	1/4	\$14
SY9-3	3/8	\$15
* SY9-3 1/2	3/8	\$15
SY9-4	1/2	\$15
* SY9-4 1/2	1/2	\$15
SY9-5	5/8	\$16
* SY9-5 1/2	5/8	\$16
SY9-6	3/4	\$16
* SY9-6 1/2	3/4	\$16
* SY9-8 1/2	1	\$18
* SY9-9 1/2	1-1/8	\$30
* SY9-10 1/2	1-1/4	\$35
* SY9-11 1/2	1-3/8	\$38
* SY9-12 1/2	1-1/2	\$40

Roman Ogee

PART NO.	A	PRICE
S5705Y	5/32	\$16
* S5705Y 1/2	5/32	\$16
S5708Y	1/4	\$17
* S5708Y 1/2	1/4	\$17

Slot Cutter - 4 Flutes

PART NO.	A	PRICE
SY7002	1/8	\$24
* SY7002 1/2	1/8	\$24
SY7004	5/32 (4mm)	\$24
SY7004 1/2	5/32 (4mm)	\$24
SY7006	3/16	\$24
* SY7006 1/2	3/16	\$24
SY7008	1/4	\$24
* SY7008 1/2	1/4	\$24



CAS-15 \$495.00
 (Freight included)

- 1 1/2" HP, 2 speed, Reversible
- 3/4" and 1/2" spindles
- 1.2" vertical spindle travel • Holddown clamps
- Individual fence assembly adjustment
- 1/2" and 1/4" router collets
- Mitre dovetailed into table

MC/VISA/COD USERS ORDER TOLL FREE
 1-800-235-0272
IN WASHINGTON STATE CALL 1-236-0272
 7AM - 7 PM Monday through Friday (P.T.)



Had the 18th-century explorer Captain James Cook been a woodworker with an eye for fine stock, he would have shaken his head in disbelief on his first Hawaiian landing. For in that Pacific paradise, natives had for centuries depended on huge outrigger canoes made from hollowed-out logs of a brightly hued hardwood. In them, they traveled hundreds of miles from island to island for war or trade. In fact, the early Hawaiians honored their canoe wood for its seaworthiness by naming it *koa-ka*, meaning "valiant soldier."

The English shortened the native word to koa. And, they no doubt quickly discovered that the beautiful wood had potential for more than dugout canoes.

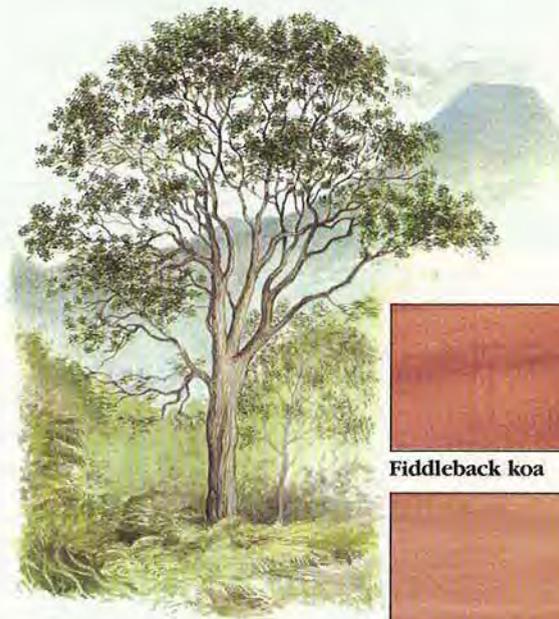
By the late 1800s, items of koa appeared in U.S. ports, brought by returning missionaries. Attracted by the color and figure of the new wood, furniture makers, architects, and coachbuilders demanded logs. Nowhere, though, did anyone sing the gorgeous wood's praises louder than in Hawaii. There, craftsmen made koa ukuleles, an instrument introduced by Portuguese sailors.

Wood identification

Koa (*Acacia koa*) grows in quantity only in the Hawaiian islands. There, it grows everywhere—from the beaches to the volcanic peaks. Koa trees in Hawaii show no

KOA

Hawaii's hardwood soldier of the sea



Fiddleback koa



Plain-sawed koa

preference for a particular soil type or climate.

Mature koa trees reach 120' heights and 8' diameters. In stands, their trunks can be free of branches for 80'. Open-grown koa trees, however, nearly imitate live oak trees with numerous spreading branches that form wide, open crowns.

Koa's bark appears gray colored, flaky, and fissured. Branches display clusters of small, light-green, pointed leaves.

At about 50 pounds per cubic foot, air-dry, koa weighs about 25 percent more than black walnut. Koa, like walnut, has high crush resistance and shock absorbance. Unlike

walnut, however, koa's grain interlocks, opening the door for exceptional fiddleback figure.

Koa's thin, light-colored sapwood surrounds a heartwood that some woodworkers describe as lustrous, swirled marble. Primarily reddish brown to dark brown, the wood occasionally carries colorful tones of gold, black, and deep purple.

Working properties

Due to koa's interlocking grain, you'll find that it has a greater bending strength and stiffness than walnut. It works quite easily with both hand and power tools, except that it may burn

when routed or sawed cross-grain. So, keep cutting edges sharp and avoid a slow feed rate. Plane curly or fiddleback koa at a slight angle to avoid tearing the grain.

You'll have best success joining koa with screws as well as glue, since occasional resin pockets sometimes prevent solid adhesion with glue alone. These same resins, however, make the wood resistant to insects and fungus. And, you can sand koa to a silky finish.

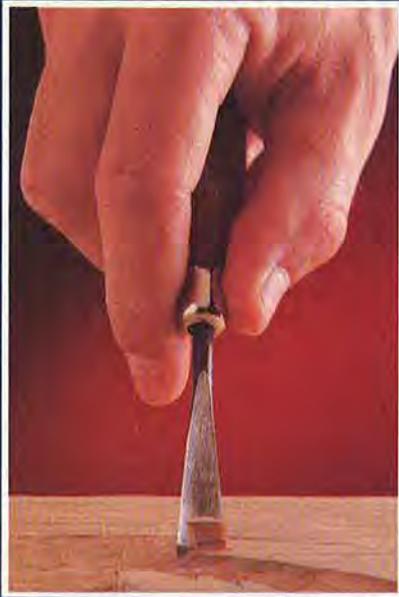
Uses in woodworking

Koa ranks as a cabinet wood of exceptional beauty and quality. You can work it into fine furniture, sculpture, turnings, and musical instruments. Because of its shock resistance, it makes exceptional gunstocks. Due to its decay resistance, koa also performs well as boat trim. As veneer, especially with fiddleback figure, koa becomes costly architecture paneling.

Cost and availability

In the early seventies, koa was readily available in the mainland U.S. Then, it practically disappeared in the marketplace because Hawaii's main koa mill ceased operation. Now, through the efforts of smaller mills in the islands, you can buy the wood once again—at a premium price of about \$5 per board foot. Plain-sliced, nonfigured veneer costs about \$1.50 per foot—double for figured. 🌳

Illustration: Steve Schindler
Photos: Jim Kascoutas



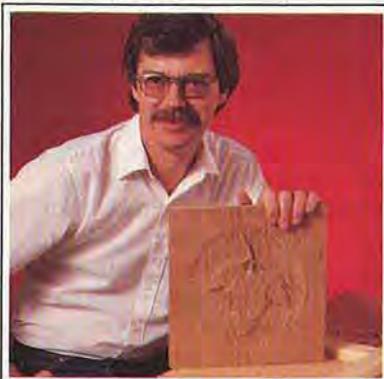
S T E P RELIEF

If you've ever admired a beautiful relief carving, but thought you weren't artistic enough to try it, think again! Even those of us with little or no eye for proportion or sculpture can be successful ... once we know a few of the rules. Here's your chance to get the basic instruction that will allow you to dive right in and come up a winner.

A CARVER BY ANY OTHER NAME

Jim Rose didn't know anything about carving when he and his wife, Pam, spotted some relief carvings at a theme park. When Pam wanted to buy a caricature of an Ozark Mountain man, Jim responded like so many of us by saying "I can do that." The scene happened 20 years ago, and Jim's been carving away ever since, winning awards and the respect of fellow carvers.

While many of us at *WOOD*® magazine dabble in carving, we turned to this resident of Ankeny, Iowa, for some expert advice. Jim was happy to help us, with one regret: "I wish this article had been written when I was starting out—I had to learn the hard way, by myself."



IT'S REALLY PRETTY EASY ONCE YOU

THE "BIG 5" TOOLS: ALL YOU NEED TO START

Some relief carvers carry around suitcases full of carving tools, but you can make 90 percent of all the cuts you'll ever need with five basic tools. So, we suggest you postpone the purchase of more elaborate tools until the need arises. We also recommend that you buy presharpener tools that only need an occasional stropping to stay sharp. To learn how to use a strop, see the short article on page 70.

Here's a list of the five tools shown *below*, and what each will do for you. Refer to the glossary *opposite* for unfamiliar terms. See the Buying Guide on page 39 if you'd like to purchase this set.

● **Bench knife**—We like the Stanley Slimknife because of its retractable blade that's thin yet sturdy. Use the knife for making stop cuts

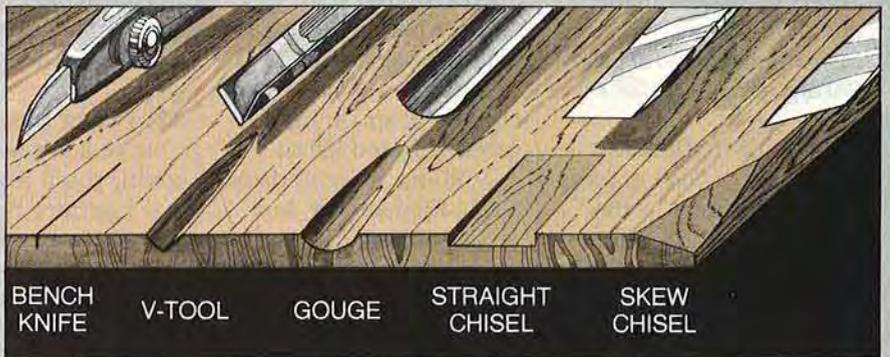
and for cleaning up loose shavings. You can use an X-acto knife in its place, but we had our best results with the Stanley model.

● **3/8" #12 V-tool**—A great little tool for making outlining cuts and textured lines such as hair or veins.

● **3/8" #5 Gouge**—This tool makes fast work of wasting a lot of stock, removing wood up to a stop cut, and for texturing shapes such as a wave background.

● **3/8" #1 Straight chisel**—You'll find yourself reaching for a straight chisel when you need to flatten or round over a surface, or to remove coarse tool marks.

● **3/8" #1 Skew chisel**—Primarily used for rounding over edges, you'll also use the fine point of a skew chisel to remove material from tight areas.



BENCH
KNIFE

V-TOOL

GOUGE

STRAIGHT
CHISEL

SKEW
CHISEL

CARVING

Unlike other types of carving, such as whittling, that leave few pattern marks to guide you, the lines of a relief carving design never really disappear. Here's why. By the time you cut them away, you've nearly

completed the design, and those marks have led you to almost certain success. Sound easy? It is!

When trying to teach carving basics, carving instructors have found that there's no better way to learn than by doing. So we've decided to

follow this advice and start you out with a little background information about the necessary tools and methods. Then, starting on page 39 we take you step-by-step through a wall plaque project that uses a grape cluster as its theme.

LEARN THE BASICS

IN CARVING, IT HELPS TO KNOW THE LANGUAGE

Relief carvers have a vocabulary all their own, so we couldn't resist including some of the most-often-used words in this article:

Bench book—This simple device secures a workpiece in place while you carve. We show you how to make one on page 38.

Outlining cut—The first cut you'll make (see step 2 on page 39), it forms a groove around the design, separating the raised portion of the pattern from the background.

Stop cut—Usually made with a straight downward plunge of a knife, this cut forms a vertical gap that stops a second cut made at a horizontal angle. Step 6 on page 40 shows a stop cut.

Strop—A strip of leather treated with a buffing compound used for sharpening blades.

Under cut—To help the 3-dimensional quality of a relief carving, these cuts remove stock from underneath the outside edges of the design, just as we do in steps 15 and 16 on page 41.

Wasting—Refers to the removal of a large amount of stock, usually in taking out the background material around a design with a gouge (see step 10 on page 41).

GET A GOOD GRIP

You'll carve safer and more effectively if you hold the tools correctly. For an ideal grip on chisels, gouges, and V-tools, hold them as shown on page 39, with the butt end of the handle firmly planted in your palm. For maximum accuracy, guide the tool with the index and middle fingers of your free hand. Hold your knife much like you would a pencil, as shown below.

"I can tell if someone's a begin-

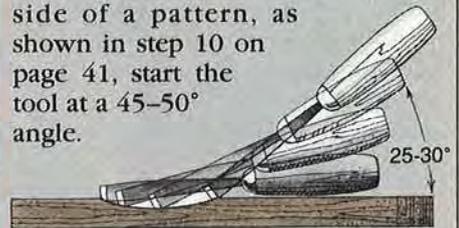


Placing your index finger on the top of knife allows you to put downward pressure on the blade.

ner carver because their fingertips and knuckles turn white when they hold the tool," Jim Rose told us. "They should be pushing the tool with their arm and shoulder, not their fingers."

THE CARVING MOTION: LIKE SCOOPING ICE CREAM

For safe, controlled, and accurate cuts, use the basic motion shown below, to remove wood. Push the tool into the project at a 25–30° angle, then lower your wrist as you make the cut, with the tool nearly parallel to the wood surface as the blade lifts out of the wood. For fast wasting around the outside of a pattern, as shown in step 10 on page 41, start the tool at a 45–50° angle.



KEEP YOUR BLADES SHARP

Nothing will frustrate you more quickly than dull tools. That's why experienced carvers constantly sharpen their tools for quality cuts. Because it takes more force to push a dull tool through wood than a sharp one, dull edges can also lead to injury. Why? By exerting unnecessary force, you will lose any finesse or control over your carving tools, and increase your chances of slipping. The carving instrument may cut into the wrong area of the carving, or worse yet, into you!

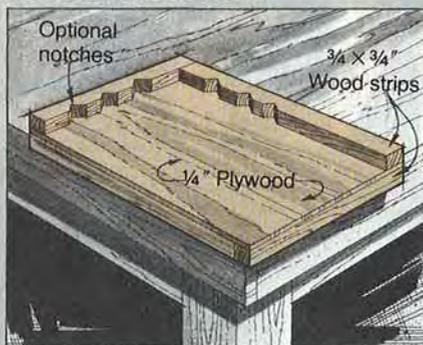
Continued

MORE RELIEF-CARVING BASICS

TRY THIS HANDY, EASY-TO-BUILD BENCH HOOK

Carvers use a variety of means to secure their workpieces, but we like the convenience of a bench hook like the one shown *right*. By placing your carving on top of the plywood portion, you can carve in several directions before turning your workpiece around.

To build it, cut a piece of $\frac{1}{4}$ " plywood to at least the dimensions of your workpiece. Then, glue $\frac{3}{4} \times \frac{3}{4}$ " wood strips along opposite corners on the top and bottom sides of the plywood. With a little more effort, you can add some notches, as



shown in the illustration, allowing you to secure your carving in a greater number of directions.

PLAY IT SAFE

You can minimize your chances of injury by following three rules: First, always push the carving tool away from you. If you're tempted to turn a blade toward yourself as you carve, instead take the time to reposition the carving. Second, keep both of your hands behind the cutting edge as you push it. Finally, take a good look at your tools before you pick them up. More than one carver has been cut by blindly reaching out for a tool, only to slice a finger by grabbing it by the blade.

HOW TO CARVE IN RELIEF, PHOTO-BY-PHOTO



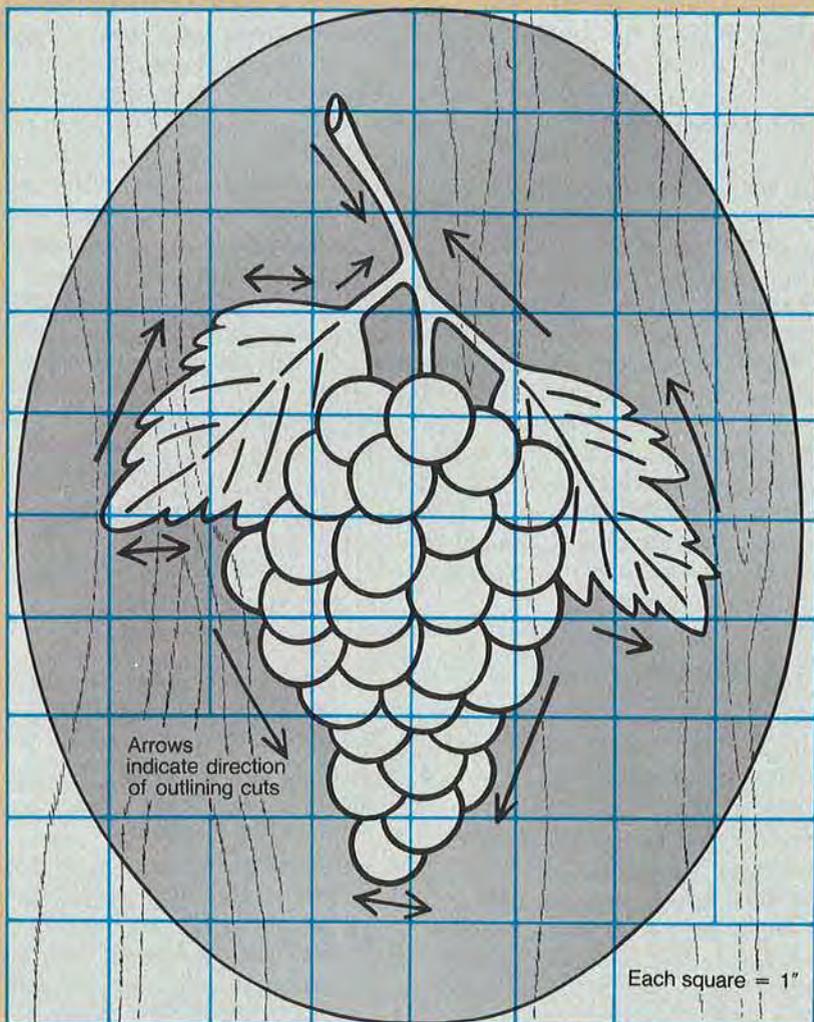
Through the centuries, grape and leaf carvings have decorated everything from wine casks to furniture. The version at *left* makes an ideal project for beginners

because of its simple curves and classic beauty. In the process of making it, you'll learn many of the basic techniques of relief carving. To get started, you'll need the five carving tools and the bench hook described on pages 36–37 along with a pattern, and a strop.

Jim Downing, our design editor, asked his son Jamie—whose only carving work consisted of his initials in a backyard tree—to read an advance copy of this article. Jamie, 19, completed the project in 8 hours with results that pleased father and son. Our little test convinced us that you'll have equally satisfying results.

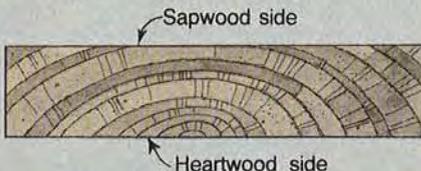
YOUR FIRST STEPS: LOWER THE BACKGROUND

It's a relief carver's rule of thumb to "waste," or remove, the deepest portions of the design first. So we'll lower the background (everything outside the grape cluster) to $\frac{3}{8}$ "—the maximum depth for low-relief carvings. We show you how, starting with step 1 on the opposite page.



CARVE ON THE SAPWOOD SIDE

Before you trace a pattern onto a workpiece, examine the end grain. Since wood has a tendency to cup toward the heartwood, and toward its carved side, you can counteract these two forces and reduce the likelihood of the piece warping by carving on its sapwood side.



DON'T CARVE TOO DEEP

Before you ever make your first cut, decide the maximum depth of the piece, and what areas you'll cut to that depth. Then, be careful not to cut any deeper—you'll find it practically impossible to disguise a cut that's too deep.

"It's a common myth that you need to carve deep, but good carvings achieve the illusion of depth while only going $\frac{3}{8}$ " or so deep," Jim said. "Look at any coin—there's an example of a very shallow relief carving that nevertheless has a good sense of depth."

BUYING GUIDE:

Set of 6 carving tools. This basic set contains the tools you'll need (plus two other gouges) for the project *below* including a $\frac{1}{4}$ " #9 gouge, $\frac{1}{4}$ " #8 gouge, $\frac{3}{8}$ " #1 skew, $\frac{3}{8}$ " #5 gouge, $\frac{3}{8}$ " #1 chisel, and $\frac{1}{4}$ " V-tool, item No. 18A20, \$35.50 ppd., from Woodcraft Supply, 41 Atlantic Ave. Box 4000, Dept. WBH19B, Woburn, MA 01888.

Stanley Slimknife. Available nationwide in many department stores, including K-Marts, and larger hardware stores.

1 Carving tools tend to follow grain direction, so if you're not careful, they can accidentally wander into your pattern. To keep this from happening, transfer arrows around the outside of the pattern as a reminder of the direction of your outlining cuts. As shown at *left*, the arrows point in directions that will take your tools *away* from the pattern as they're pushed. Two-sided arrows indicate you can carve in either direction.

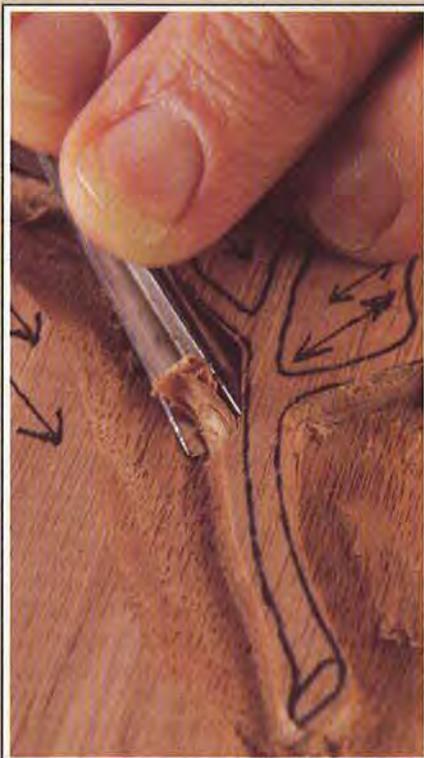
2 Use a V-tool, layed on its point, to make a $\frac{1}{8}$ "-deep groove around the perimeter of your pattern, staying about $\frac{1}{4}$ " outside the pattern lines. Notice the comfortable, sitting position of the carver. Keep your strop nearby and place your chisels on a rag to protect their sharpened edges.



3 With a gouge, widen the groove to at least $\frac{1}{2}$ ", still staying away from the pattern.



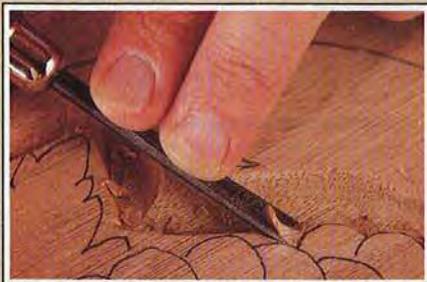
4 Now, lay the V-tool on its side and cut away stock *up to*, but not over, the outside pattern line. Skip the pockets along the leaves and grapes that are too tight to work into, and save those areas for later.



Continued

RELIEF CARVING

5 Remove material from tight areas along the outside of the grape cluster by first making a cross-grain stop cut with the V-tool on its side, ending the cut just short of the pattern line. Then, use the same tool and motion to remove the excess material by coming up to the first cut from the other side of the corner as shown *below*. You won't be able to remove the wood inside the serrated areas along the leaves, so save those for later. Now, repeat steps 3–5 until you've lowered the outline cut the full $\frac{3}{8}$ ".



6 To remove stock from between the leaf serrations, first make stop cuts about $\frac{1}{8}$ " deep along both sides of the area. Start by plunging a knife into the tightest part of the corner, and pull the knife toward the outside of the pattern. To avoid breaking off leaf tips make the cross-grain cut first. Take your time, but if you accidentally break a leaf tip, don't worry—just modify the outside of the leaf. Your carving will look no worse for it.



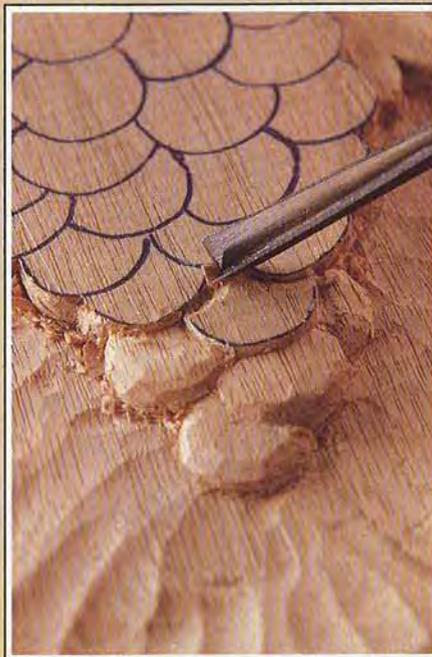
7 Remove the material between the two stop cuts by cutting into the tightest part of the corner with a skew chisel as shown *below*. Now, lift the waste wood out, and repeat this process while working toward the outside of the excess wood. Repeat steps 6–7 until this area is flush with the surface along the outside of the pattern.



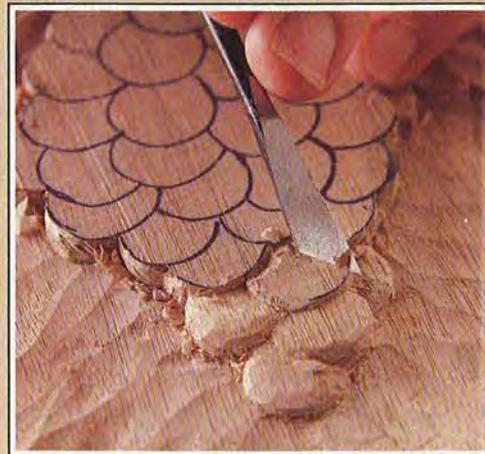
11 To shape the leaves, first define the edge between the grapes and leaves with a V-tool, just as you created the outline of the grapes against the background in steps 2–5. This time, however, carve to a depth of only $\frac{1}{8}$ ".

Then, use a straight chisel as shown *above*, to lower the leaves and give them a wavy appearance. We shaped one leaf so it sloped up to its middle from both sides, and the other so it sloped up in one direction from the grape side.

After completing the leaves, lower the stem about $\frac{1}{8}$ " and round it over with the straight chisel. Finally, cut the tip of the stem at an angle (see photo of finished piece on page 38) to make it appear clipped off by a grape picker.

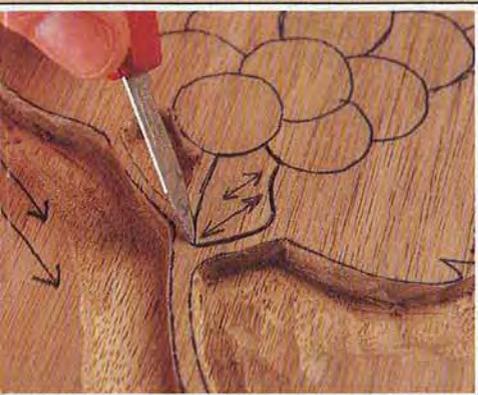


12 Since grapes at the bottom of the cluster appear farthest from the eye perspective, carve the bottom grapes first. Carve one grape at a time and work your way up the cluster. Outline the edge of each individual grape with a V-tool as shown *above*.

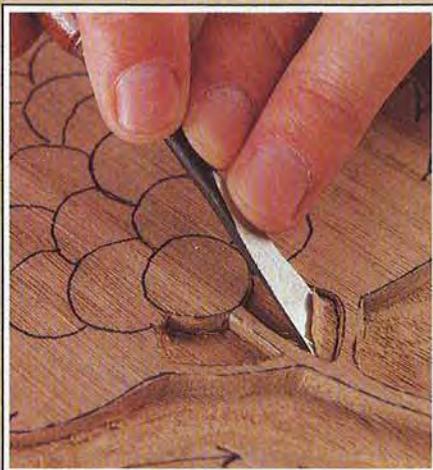


13 Next, round over the edges of the grapes with a skew chisel. Notice that we've lowered the level of the bottom-most grapes to enhance the design's sense of depth. As you work your way up the cluster, shape the grapes along the outside of the pattern first, making them just above the background and lower than the ones alongside them. You can achieve the illusion of globe-shaped grapes by rounding the edges of each grape and slanting its top surface downward into the grape above it.

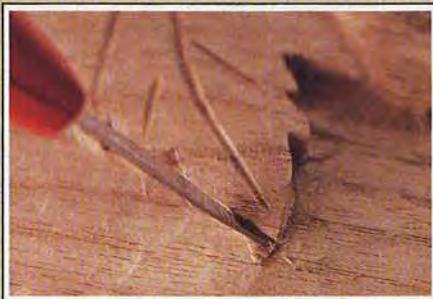
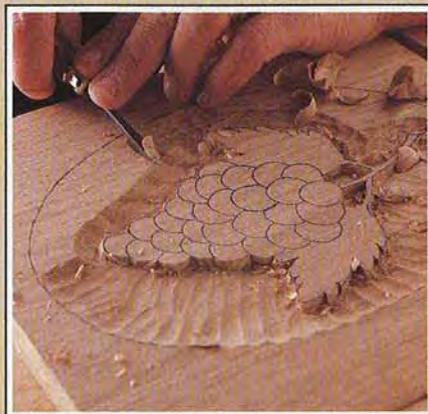
8 Next, remove the background material between the stems to a depth of $\frac{3}{8}$ ". As you did in step 6, first make stop cuts with a knife along the outside of the pattern lines to a depth of $\frac{1}{8}$ ", making sure the cuts connect in the corners, without crossing into the pattern. Take your time as you work along the stems; one stray cut could sever them completely.



9 Use a skew chisel to remove the material between the stop cuts. Repeat steps 8-9 until you've reached a depth of $\frac{3}{8}$ ". As you near this depth, be careful not to cut too deep with your knife; the bottom of the hole should be smooth and free of cut marks.



10 Now, waste the background away with a gouge, working out from the first outline cuts toward the oval line surrounding the pattern. For these cuts, use a slightly exaggerated scooping motion, plunging the gouge into the wood at about a 45-50° angle and laying it nearly flat as you take out 1"-long slices.



15 Finally, you'll need to "clean up" the loose shavings around the outside of the pattern and add to the carving's illusion of depth with undercuts. Start by plunging a knife in at a slight inward angle and making short cuts along the pattern as shown *above*. Be careful to cut only as deep as the background.

16 With a straight chisel, remove the material you just cut in step 15. Flatten the gouge tool marks closest to the pattern by gently scraping their ridges with a straight chisel.

Now, wipe mineral spirits over the carving to reveal any unwanted cut marks. Finish both sides of the piece immediately. ♣

14 To make leaf veins, first draw them in freehand with flowing lines, then lay the V-tool on its point, and make shallow incisions along the lines.

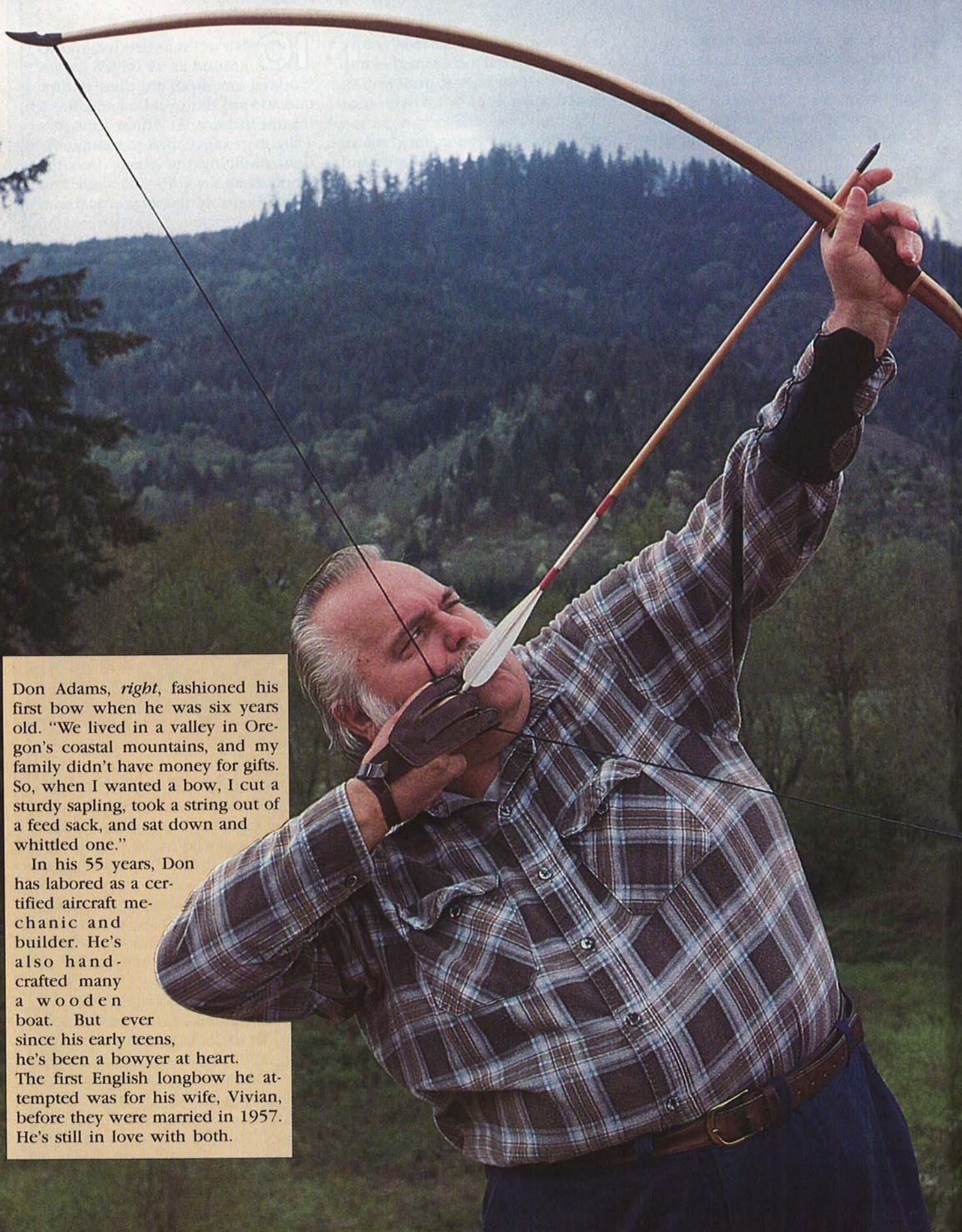
PATTERN OFFER

For a free, full-sized pattern, send a stamped, self-addressed, business-size envelope to:

Grape and Leaf Pattern
WOOD® magazine
17th at Locust
Des Moines, IA 50336

Offer expires August 30, 1989.

Written by Bill Krier with Jim Rose and Jim Downing
Photographs: Bob Calmer Illustrations: Jim Stevenson



Don Adams, *right*, fashioned his first bow when he was six years old. "We lived in a valley in Oregon's coastal mountains, and my family didn't have money for gifts. So, when I wanted a bow, I cut a sturdy sapling, took a string out of a feed sack, and sat down and whittled one."

In his 55 years, Don has labored as a certified aircraft mechanic and builder. He's also hand-crafted many a wooden boat. But ever since his early teens, he's been a bowyer at heart. The first English longbow he attempted was for his wife, Vivian, before they were married in 1957. He's still in love with both.

Longbows of Oregon yew by

DON ADAMS, A MASTER BOWYER ROBIN HOOD WOULD HAVE LOVED

Robin Hood lives on in Don Adams' shop. No day goes by without mention of the legendary archer. "Doggone right there was a Robin Hood!" the master bowyer responds at the drop of the question. "He was a longbowman."

Don could hardly believe otherwise. After all, he specializes in crafting the historic weapon. In fact, this Elmira, Oregon, craftsman ranks as one of the few bowyers in the world to conquer the intricacies of building the bow he anachronistically calls "the atom bomb" of the Middle Ages.

"There's nothing prettier in the world of archery than the English longbow," sighs the brawny bowyer. "Then, there's its history."

Caught up, Don spins the tale he's no doubt spun countless times. "A longbowman could easily loft 15 arrows a minute, and accurately penetrate a knight's armor at 200-300 yards!" His excitement grows as he delves into the archives. "At the Battle of Agincourt in 1415, an English army of 5,000 equipped with longbows defeated 35,000 Frenchmen! As a matter of fact, archery was England's mainline defense for centuries. Common English names reflect that—Archer, Arrowsmith, Bowman, Fletcher."

ROYAL BOWMEN THANK HEAVEN FOR YEW

Archers in the Queen's Scottish Royal Company of Guards and the Woodmen of Arden, in England, regularly wait two years and more for Don's made-in-Oregon, yew longbows. American bowmen

gravitate to them, too, even at Mercedes-class prices of \$500 or more.

Standing as tall as a man, English longbows are *long* bows. Don's research indicates they often approached 7' in length unstrung. His models rarely exceed 6'.

Longbows were made from several different woods, including ash and elm, according to the bowyer. "Yew [*Taxus baccata*] was the cream of the crop, though," Don says. "To me, it's God's gift to the archer. It's a natural lamination as it comes from the tree. For the back of the bow [outside of the curve] you have the natural sapwood to give you the stretch. From inside the tree, you have the heartwood for the belly that gives you compression and spring."

Don's yew grows right in Oregon—above 2,500' elevation in the nearby Cascade Mountains. Only about one out of every 200 trees of Pacific yew (*Taxus brevifolia*) will do for a bow. "The grain has to be straight, with no limbs or knots," he explains. "And the best wood has a dense heartwood with a thin, uniform band of sapwood."

LEAN STAVES WORTH THEIR WEIGHT IN GOLD

Yew trees don't grow big. At best, a yew trunk about 12" in circumference yields two or three staves 1½"-square and about 3' long.

Don will later match the grain of the short staves and pair them for joining as future longbows. He rarely finds a trunk defect-free and tall enough for a self-bow—that is, one made from a single stave of yew.



Continued

DON ADAMS, MASTER BOWYER

To see how the grain runs and to check for imperfections, Don first peels away the bark from the felled timber, then splits the yew logs in half. He discards the core.

With a straightedge, Don lays out how his staves will run down the length of yew and marks their outlines. At the bandsaw, he frees them. "I end up using only about the outer 1½" of the tree," he says.

Don works off small imperfections when he shapes the stave. He repairs some large faults. "I'll drill out a pin knot and fill it with a 'Dutchman,' a carved yew plug."

In the damp Oregon climate, green yew staves must air-dry, unsealed, indoors for four years. Before laying a stave to rest, Don marks it for the bow size it will eventually become, and dates it.

"You can see why I value a stave as highly as gold." Don slides his muscled hand down a silken piece of yew. "I haul out an awful lot of scrap to get one pretty stave."

MYSTERY STILL LURKS IN THE BOWYER'S SHOP

In merry old England, the bowyer's closely guarded craft was a family endeavor, with trade secrets passed down from generation to generation. In the 20th century, bowyers make their way alone. "You just don't learn how to create these bows quickly," Don remarks.

Trial and error taught Don the correct way to make a longbow. "I've had bows that broke, bows that were crooked," he chuckles.

That's because English longbows, seemingly of simple design, actually challenge the bowyer with subtle engineering dynamics. Don explains: "The cross section is a D-shape. Not square. Not rectangular. The belly is always round, the back the natural shape of the tree. Of course, that D-shape varies from bow to bow. It can look sort of flattened, or it can be bulgy. The shape of the cross section even varies along the length of a bow."

The bowyer has to determine from his experience what shape to

make the belly. "Therein," Don remarks, "lies the secret of whether you have a good bow or a poor one. Anyone can make a longbow look-alike, but it won't last alike. And, it won't shoot alike."

The bowyer has three parameters in making a bow. He must know the archer's draw length (length of the arrow, averaging 27–28"); what pound-pull (force at which the bow will launch an arrow, usually from 25–100 pounds) the archer desires; and, whether the archer is right- or left-handed.

"The pound-pull and draw length determine which stave I pick," says Don. "You never want a bow with more wood than it needs. You have to read the wood—how a shaving breaks and comes apart."

Not unlike the artisan of old, Don keeps many of his bowyer's techniques a secret, willing only to impart them to an apprentice, should he ever have one. "I have jigs I invented out of necessity, to keep from ruining a good stave," he notes. "In this shop, ruining yew is a hanging offense."

During his trial-and-error stage, Don mastered the joinery to merge



A neat finger splice at the handle often joins two yew staves to make an English longbow. A leather wrap will cover it.

two staves into a bow. He calls it a finger splice. On his finished bows, it can't be seen, not only because it's wrapped with leather where it occurs—at the handle—but because it's such a fine-fitting joint (see photo, *below*). The jig Don perfected he shows to no one.

PERFECTING THE ARC AT THE TILLER BOARD

Being a master bowyer means never wasting a stave. Consistency reigns in bow production. "There's no surplus of staves," says Don. "I have to end up with the pound of bow and draw-length that the customer wants without doing it two or three times."

A window provides the natural light he prefers for working a stave.



Don works the stave down with a drawknife and a spokeshave, starting at the splice if the bow has two staves. He calculates the handle's location, shaves it to shape, then begins paring the stave to a rough bow form. To find out just where and what has to be done to achieve the right shape, the bowyer mounts the roughed-out bow in the tiller board (see photos, *below left*).

"I file in some temporary nocks and put a string on it longer than the bow length. At the tiller board, I start pulling and watch how it bends," Don notes. "You can have too much wood on one side of the limb and it won't bend right. What I want is to have it bend uniformly from the handle. Vertically, the string must split the bow in half. If

not, stress progresses to a crooked bow, then a broken one."

Don practices reserve and caution in taking off wood. He says the easiest mistake to make is cutting the stave down too fast, a practice that usually ends up with a bow under the customer's specified pull weight. "You have to go slowly by hand because it's such a fine line between a 40-pound bow and a 50-pound bow. One mistake and you can only hang it on the wall."

GENUINE COW-HORN NOCKS FOR THE ENGLISH LOOK

Don gives his longbows what he calls the "English look" with genuine cow-horn nocks for attaching the bowstring. The leather-wrapped handle adds time-honored appeal.

The name of the finish Don sprays on still lurks in his bag of tricks. He admits, though, that it's a modern one. "I spray on four to six coats, and sand and steel-wool in between. It really has to seal the wood. Otherwise, on a wet day the pound-pull of a bow will change as much as 10 percent."

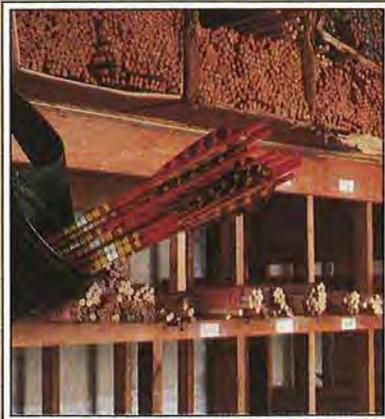
Although English longbows from Don's hand have brought down big game across the continent and in Alaska, they have a romantic look. "I make a sporty, gentleman's type bow," he states. Even so, Don's bows never fail to put an arrow where it's aimed.

Top left: Working a one-piece stave called a self-bow, Don first shapes the handle with a spokeshave. Note the yew's uniform sapwood thickness along the bow's back.

Top right: No less a work of art than a painting or sculpture, Don's longbows receive his signature.

Bottom left: The phrase "high strung" comes from stringing a bow too high on the handle, resulting in erratic performance. Don checks for nock position prior to tillering.

Bottom right: Tillering a bow shows the bowyer exactly where he needs to remove more wood. By means of a rope and pulley, Don draws the bow to its specified poundage and eyes its arch for irregularities in shape.



OREGON ARROWS, TOO!

Bowyer Don Adams also makes arrows. "Of nothing but Oregon-grown Port-Orford cedar," he notes, "by and large the most reliable arrow wood there is."

Don's cedar supply was cut more than 30 years ago, specifically for arrows. He says it's superior to wood available today—properly seasoned and fine- and straight-grained. "The shafts have a distinctive cedar aroma, a smell archers hate," he laughs. "It means a broken arrow!"

To make arrows, Don cuts 4×8×33" cedar bolts into 1³/₂" squares and runs them through a doweling machine. The machine produces tapered dowels. After sanding the dowels, Don splines them to receive a fletch of dyed turkey feathers, then, they're nocked with plastic. Don's wife, Vivian, dips the arrows in a clear finish, then crests (paints color bands) on the shafts. "She's a master," says Don. ♣



Written by Peter J. Stephano
Photographs: Kenneth Naversen



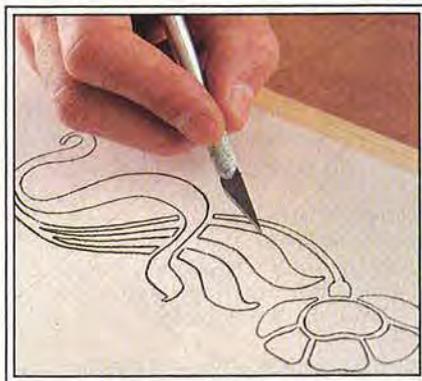
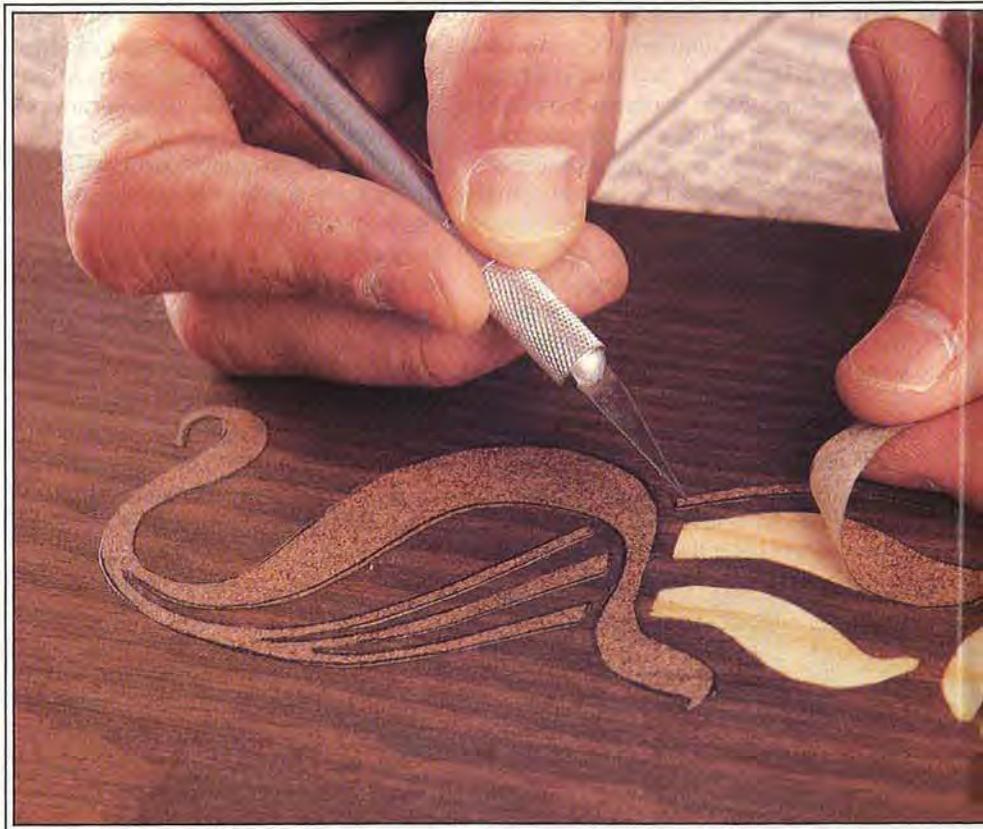
TRY STAIN-RESIST

When **WOOD**® magazine reader Dick Link told us about how he was able to place patterns on wood that look like finely placed inlay, we were skeptical. But not any longer! We tested this San Antonian's technique in our shop—and added a couple twists of our own—and we're convinced that this is something worth trying.

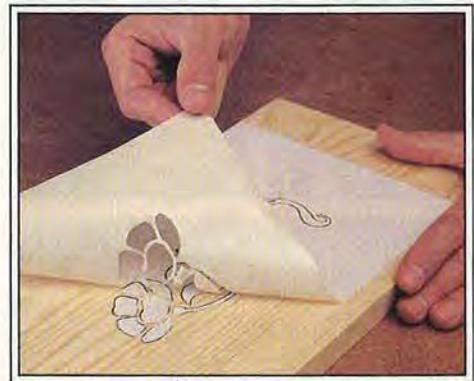
Note: Before trying this technique on your workpiece, practice the procedure on a piece of scrap stock of the same species, with similar grain pattern. Naturally, you don't want to botch your project with a bad finish, so be certain you're pleased with your test piece. We obtained satisfying results with Deft spray stain and Deft clear semi-gloss lacquer finish, but you may want to experiment with other finishes.

1 Once you've decided on a design that complements your workpiece (we've provided a half-sized pattern on the next page to get you started), transfer the pattern to a sheet of self-adhesive paper. See the Buying Guide for additional information. Plain-paper copiers provide an easy means to do this, and many machines allow you to reduce or enlarge the image. Or, use carbon paper.

2 Next, seal the self-adhesive sheet by spraying it with two mist coats of lacquer, allowing 5 minutes drying time between applications. The lacquer seal prevents stain from penetrating the sheet and leaving sticky residue on the work piece. Although the lacquer forms a protective barrier, heavy applications of it may by itself dissolve the adhesive, so go lightly with the lacquer as well as later coats of stain.



3 Finish-sand the project by hand with 150-grit sandpaper, and wipe the surface clean with a tack cloth. Then, peel the backing from your pattern, and apply the sheet onto the work surface. Firmly rub the pattern down with your hand for strong, even adhesion. With an X-acto knife, carefully cut along the pattern lines as shown, going deep enough to completely cut the paper.



4 With the cutting completed, slowly lift the self-adhesive sheet by one corner and remove it, leaving the pattern adhered to the wood surface. If part of the design area lifts up because of incomplete cuts, just lower it back to the surface and clip it free with your X-acto knife. Now, with clean hands, rub the segments of the design to make sure they're securely adhered to the wood.

FINISHING FOR AN IRRESISTIBLE COUNTRY LOOK

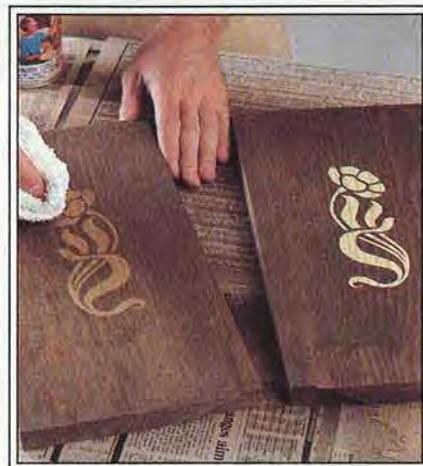


6 Now, lift the pattern pieces from the wood as shown *left* with an X-acto knife to reveal the unstained area. Allow the project to dry overnight.

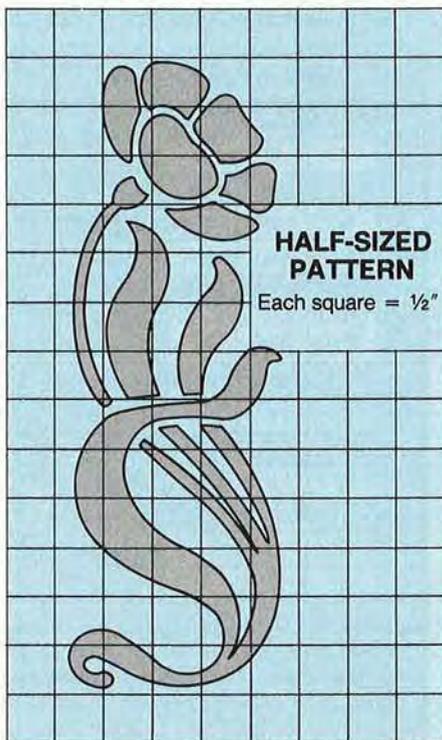
With the stain completely dry, use a clean finger to rub away any adhesive residue. If the amount of residue seems excessive, remember to make lighter applications of stain

on your next project. Now, spray a light, even coat of lacquer to the entire surface. If you like the appearance of the project at this point, skip the next step and apply one more coat of lacquer to finish the piece. If you'd like to soften the contrast between the pattern area and the rest of the wood surface, proceed to the next step.

7 To enhance the country look of your project, spray another coat of stain over the entire surface and immediately wipe it with a clean cloth. The lacquered area will accept some stain, giving a subtle variation in tone between the pattern and background. After allowing the surface to dry completely overnight, apply two more coats of lacquer to finish the project. Here, side-by-side are the two doors for our project; we skipped the final step with the door on the *far right*, giving greater contrast between pattern and background.



5 Spray a light coat of stain on the entire surface, immediately wipe it with a clean cloth, and let it dry for 5 minutes. If you'd like a darker look, repeat the process as necessary, allowing 5 minutes drying time between coats. For close-grained woods that tend to stain unevenly, such as pine or maple, lightly spray on a final mist coat and don't wipe it. Allow this coat to dry 5 minutes also.

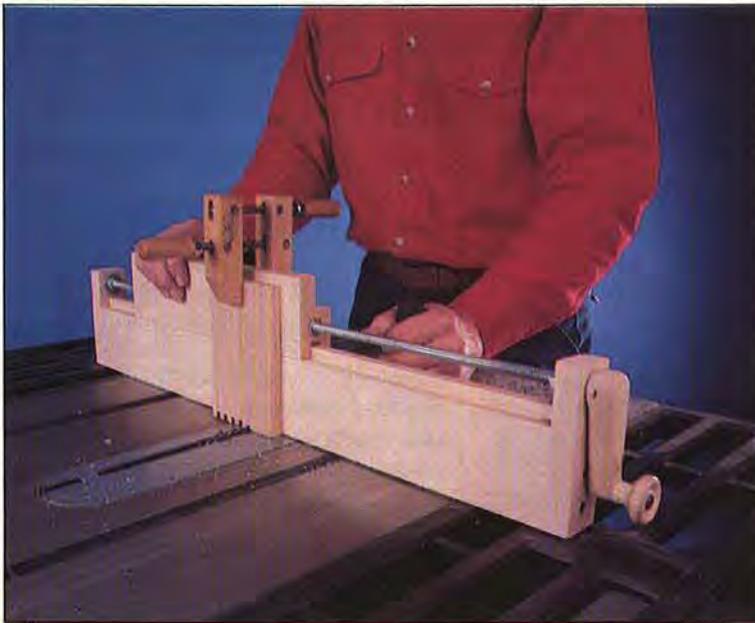


We gave a country look to this simple cabinet, using some spray finishes and self-adhesive paper. For another country cabinet project, see page 76.

Buying Guide

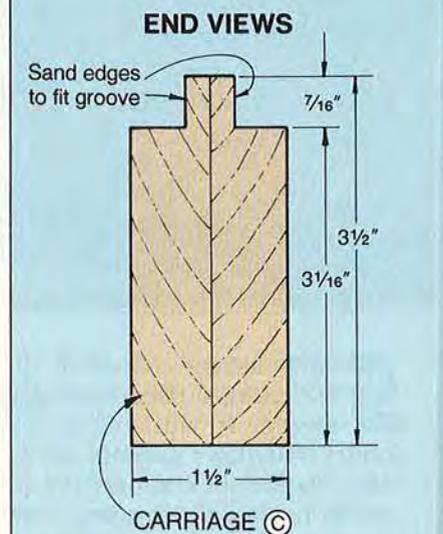
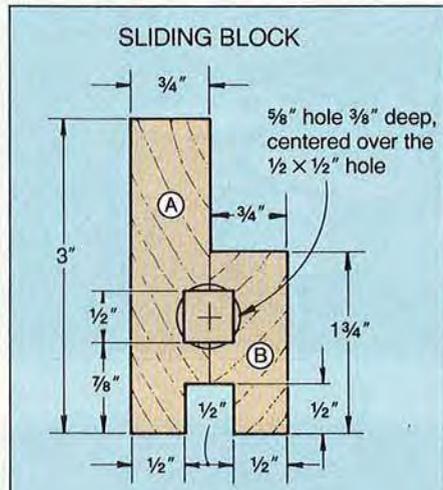
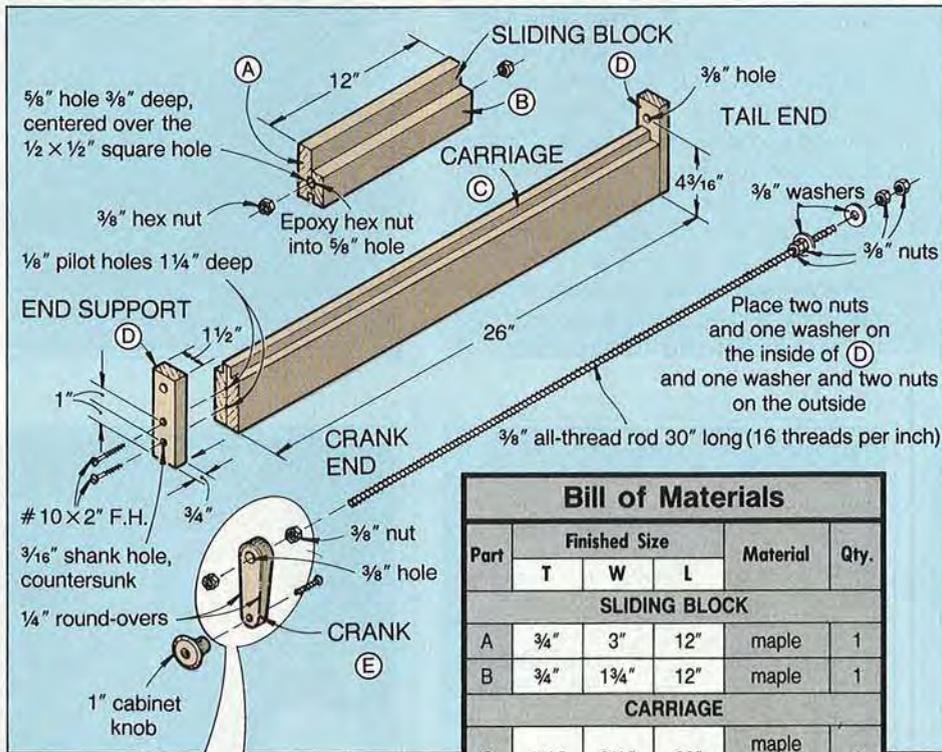
- **Avery 8½ × 11" self-adhesive sheets.** 100-sheet box (No. 5353), \$19.75 ppd. (Iowa residents, \$20.47 ppd. with tax) from Ahern Pershing Office Supplies, 300 S.W. Fifth St., Des Moines, IA 50309. 🌿

Contributor: Dick Link Photographs: Bob Calmer



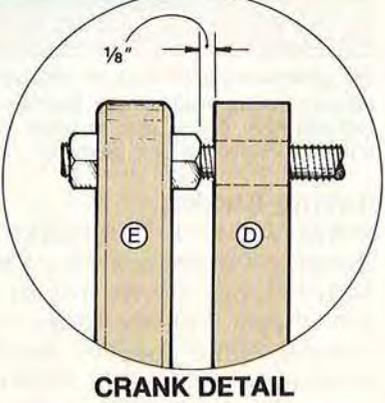
When being close just won't do THE ACCURATE

You'll seldom meet a woodworker who doesn't appreciate the good looks and durability of a box joint (also called a finger joint). But, most woodworkers hate all the setup-fuss. Wilbur Rath, a retired dairy farmer from Shiocton, Wisconsin, took the problem to heart. He designed his own box-joint jig, and decided to share his design with us. He uses the jig for making small storage boxes for his basement shop and gift boxes for friends. You'll marvel at how quickly and accurately Wilbur's jig positions the wood; each revolution of the handle moves the workpiece exactly $\frac{1}{16}$ ". To put your new jig to use, turn to page 78 and give our recipe-card box a try.



Bill of Materials					
Part	Finished Size			Material	Qty.
	T	W	L		
SLIDING BLOCK					
A	3/4"	3"	12"	maple	1
B	3/4"	1 3/4"	12"	maple	1
CARRIAGE					
C	1 1/2"	3 1/2"	26"	maple (laminated)	1
END SUPPORTS					
D	3/4"	1 1/2"	4 3/4"	maple	2
CRANK					
E	3/4"	1"	3 5/8"	maple	1
VERTICAL SUPPORT					
F	1/4"	6"	12"	plywood	1
G	3/4"	3/4"	6"	pine	1

Supplies: 8—3/8" hex nuts, 3/8" all-thread rod 30" long, 2—3/8" washers, 1" cabinet knob and mounting screw, 4—#10 x 2" flathead wood screws, 2—#8 x 3/4" flathead wood screws, quick-set epoxy, finish.



BOX-JOINT JIG

FORM THE SLIDING BLOCK AND CARRIAGE

1 Rip and crosscut the sliding block parts (A, B) and carriage parts (C) to the sizes listed in the Bill of Materials.

2 Cut or rout a $\frac{1}{2}$ " groove $\frac{1}{4}$ " deep and $\frac{7}{8}$ " from the bottom edge on the inside face of each sliding block part. See the End View Drawing *below left* for location.

3 Glue and clamp the sliding-block pieces together, with the bottom edges and ends flush. Repeat the gluing and clamping procedure with the two carriage parts.

4 After the glue dries, scrape the excess from the bottom edge of the sliding block and both edges of the carriage. Joint the edges if they are not flush. Now, cut or rout a $\frac{1}{2}$ " dado $\frac{1}{2}$ " deep centered along the bottom edge of the sliding block where shown on the End View Drawing. (We used a $\frac{1}{2}$ " dado blade and cut the $\frac{1}{2}$ "-deep groove on the tablesaw.)

5 Crosscut the ends of the sliding block and carriage. The sliding block should be 12" long and the carriage 26" long.

6 Cut or rout a pair of $\frac{1}{2}$ " rabbets $\frac{7}{16}$ " deep along the top edges of the carriage. Position the dadoed edge of the sliding block on the rabbeted edge of the carriage. The sliding block should slide freely on the carriage with a minimum of free play. If the block doesn't slide easily, scrape or sand the rabbeted edges of the carriage where indicated on the End-View Drawing.

EPOXY THE HEX NUTS INTO POSITION

1 Clamp the sliding block upright in a bench clamp. Now, drill a $\frac{5}{8}$ " hole $\frac{3}{8}$ " deep *centered* over the $\frac{1}{2} \times \frac{1}{2}$ " square hole into the end of the sliding block. (We used a Forstner bit.) If your drill-press table tilts, you could clamp the sliding block to the table, tilt the table, align the bit over the square hole, and drill the $\frac{5}{8}$ " hole. Repeat the process to drill a hole in the opposite end of the sliding block.

2 Push a $\frac{3}{8}$ " hex nut into one of the holes just drilled in the sliding block. From the opposite end, insert a $\frac{3}{8}$ " hex nut into the other $\frac{5}{8}$ " hole. Thread the $\frac{3}{8}$ " all-thread rod through the sliding block, through the other hex nut, and about 2 or 3" past the second nut.

3 Once again, clamp the sliding block upright in a bench clamp. Mix a small amount of epoxy (we used quick-set). Being careful not to get any epoxy onto the all-thread rod, epoxy the top $\frac{3}{8}$ " nut into the $\frac{5}{8}$ " hole. (We used a nail to fill the epoxy into the cavities around the nut.) Immediately wipe off any excess epoxy. Later, after the epoxy has hardened, flip the assembly over, and epoxy the other nut into the opposite hole.

ADD THE END SUPPORTS TO THE CARRIAGE

1 Cut the end supports (D) to the size listed in the Bill of Materials.

2 Mark the hole centerpoints, and drill a $\frac{3}{8}$ " hole through each end

support where dimensioned on the Exploded-View Drawing.

3 Thread two nuts and add a washer onto the tail end of the all-thread rod. As shown in the photo *below*, slip a support (D) onto each end of the rod and against the ends of the carriage. Epoxy and clamp the supports to the ends of the carriage as shown in the photo. Position the end supports so the rod goes through the center of the hole in each support. Don't worry about the bottom end of the supports being perfectly flush with the carriage—just check that the rod remains straight.



Epoxy the end supports to the carriage, being careful not to bend the rod.

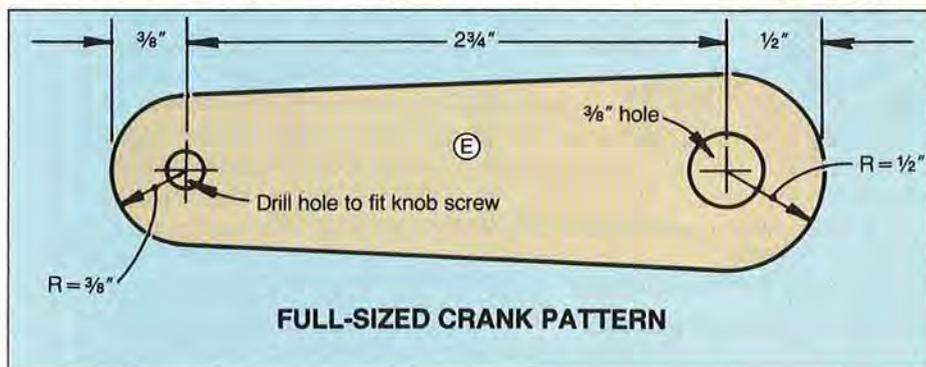
4 Remove the clamps, drill the shank and pilot holes, and further secure each end support to the carriage with #10 \times 2" wood screws. Sand the end supports flush with the carriage, and then finish-sand the entire assembly.

NOW FOR THE CRANK

1 Using carbon paper, transfer the full-sized crank pattern outline and hole locations to $\frac{3}{4}$ " maple stock. Drill the holes where located, and then cut the crank (E) to shape.

2 Rout a $\frac{1}{4}$ " round-over on the crank edges where shown on the Exploded-View Drawing. (To keep our fingers safely away from the router bit, we held the crank in a handscrew clamp as we cut the round-over on a table-mounted router.) Sand the crank smooth.

Continued



BOX-JOINT JIG

3 Double-nut the *tail* end of the rod to the end support. Position the nuts so the rod has no free play at the tail end support, yet turns easily when rotated. (For tight-fitting joints later, you may need to adjust the nuts several times to eliminate any free play.)

4 Attach a cabinet knob to the crank. Next, fasten the crank to the all-thread rod with two nuts. Leave a $\frac{1}{8}$ " gap between the inside nut and outside face of the end support where indicated on the Crank Detail accompanying the Exploded-View Drawing.

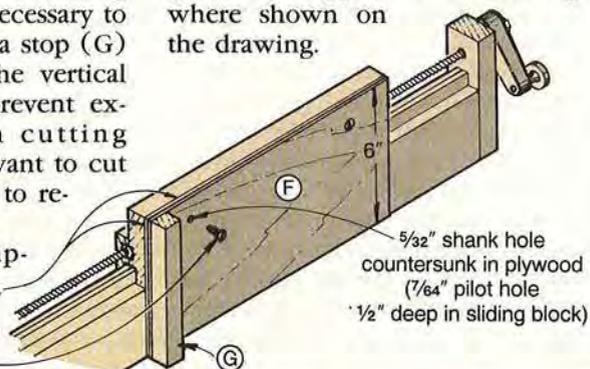
SCREW ON THE VERTICAL SUPPORT

To keep a long workpiece square with the saw table when cutting the joints, we found it necessary to add a support (F) with a stop (G) to the sliding block. The vertical support also helps to prevent excess chipping when cutting notches, so you might want to cut several vertical supports to replace the cut-up ones.

Build the vertical sup-

Top and ends flush
#8 x $\frac{3}{4}$ " F.H. wood screw

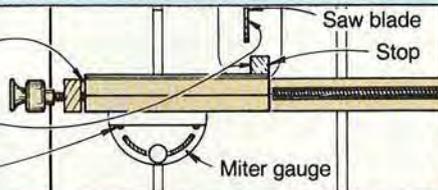
port (F, G) as shown on the drawing *below* and dimensioned in the Bill of Materials. Screw—but do not glue—the support to the carriage where shown on the drawing.



STEP 1 Move sliding block against crank end of carriage.

STEP 2 Align inside edge of stop with right side of blade.

STEP 3 Screw the miter gauge to the carriage.



TIPS ON USING THE JIG

Attach the jig to your miter gauge where shown and described on the three-step drawing at *left*.

When using the jig, remember that each crank revolution moves the sliding block $\frac{1}{16}$ ". To make indexing easier, always start with the crank in the down position. The wood crank will probably not be in the down position after aligning the dado blade with the inside edge of the stop. If this happens, loosen the nut on the outside of the crank, let the crank fall to dead bottom, and then tighten the nut.

Attach the dado blade to the tablesaw, and raise the blade to the same height as the thickness of the piece being cut. Now, raise the blade $\frac{1}{32}$ " higher so you can sand the fingers flush later.

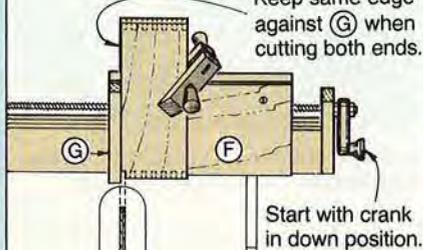
To start with a notch, follow Steps 1 and 2 on Starting With A Notch Drawing. To start a finger, follow Steps 1 and 2 on Starting With A Finger Drawing. (The first time we used the jig, we found it helpful to marked the location of the notches and on one end of a board. Following the steps at *left*, we positioned the workpiece and cut the notches.)

Produced by Marlen Kemmet
Project Design: Wilbur Rath
Photographs: Jim Kascoutas; Bob Calmer
Illustrations: Mike Henry; Bill Zaun

STARTING WITH A NOTCH

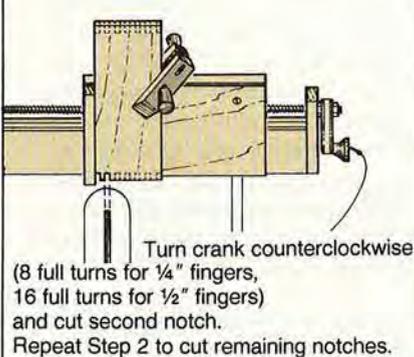
STEP 1

Keep same edge against (G) when cutting both ends.



Line up inside edge of (G) with left edge of dado blade.

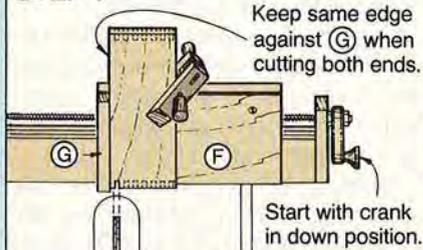
STEP 2



STARTING WITH A FINGER

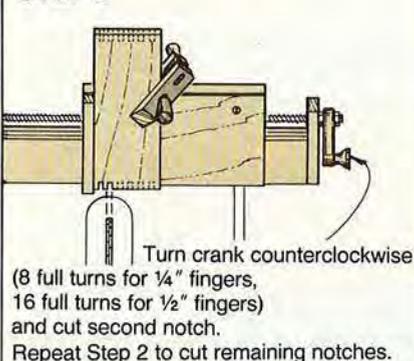
STEP 1

Keep same edge against (G) when cutting both ends.



Line up left edge of (G) with left edge of dado blade. Turn crank counterclockwise (4 full turns for $\frac{1}{4}$ " fingers, 8 full turns for $\frac{1}{2}$ " fingers) and make first cut

STEP 2



ISHI

On the morning of August 29, 1911, the last "primitive" Indian in North America stumbled out of the Stone Age. His name was Ishi, the only survivor of Northern California's Yahi tribe.

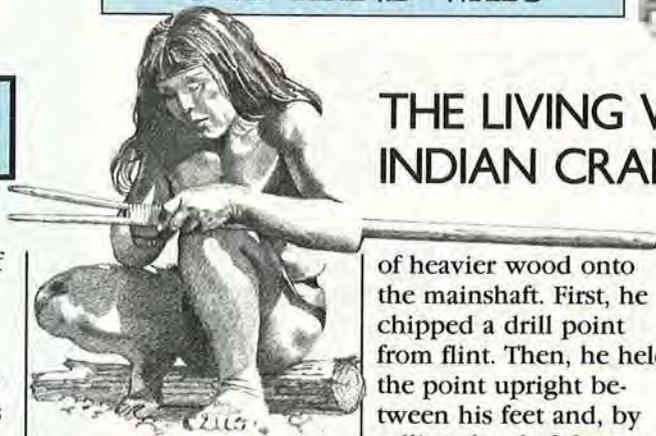
Cornered by a posse with snarling dogs, the dark-skinned intruder in modern times gave up escape. For two terrifying days, Ishi was captive. Then, a white-skinned stranger carrying papers entered his cell.

Sitting beside him on the cot, the man began to say unfamiliar words as he pointed to things. Finally, the man pointed at the wooden cot frame, and said "siwini." Ishi jumped—he knew Ishi's people's name for pine!

Ishi's visitor was T.T. Waterman, an experienced anthropologist from the University of California. Ishi returned to the San Francisco area with Waterman and eventually took up residence at the Museum of Anthropology in Berkeley. There, in a living display, Ishi demonstrated to visitors his skill as a master woodcrafter.

HANDCRAFTING BOWS AND ARROWS

At the museum, Ishi showed his new friends how he made hunting bows from hickory, ash, yew, or mountain juniper. When he found the proper branch, Ishi split it into a rough billet,



then set it aside to slowly season. Later, he brought it closer to its final shape with knives, adzes, and scrapers of obsidian (a black, volcanic glass). For the final smoothing, he rubbed the bow over and over with sandstone.

To recurve the ends of his bow, Ishi worked them over a heated stone until the wood became pliable. Carefully, he bent the wood around his knee, holding it in place while it cooled and set. Ishi treated his newly crafted bow as a living thing, protecting it from heat and damp. Despite his newly acquired possessions from the modern world, he loved his bow as he loved nothing else.

Ishi also made his arrows in the ancient way of his people. He peeled the bark from thin branches of the hazel shrub, and slowly straightened the rods by rolling them back and forth on heated stones. As with his bow, he smoothed the wood with sandstone. For a final polish with oil, Ishi drew the shafts across his naked thigh.

To make an arrow targeted for big game, Ishi socketed a foreshaft

THE LIVING WINDOW TO INDIAN CRAFTSMANSHIP

of heavier wood onto the mainshaft. First, he chipped a drill point from flint. Then, he held the point upright between his feet and, by rolling the shaft between his palms, spun the shaft on the point. When the socket in the end grain was about 1" deep, he tapered the other section of shaft and joined the wood with a dab of sticky pine resin.

COAXING WOOD TO FUNCTIONAL SHAPE

Ishi's skill in shaping natural materials was typical of native Americans. The formidable prow piece of the birch-bark canoe was perhaps the finest expression of these skills.



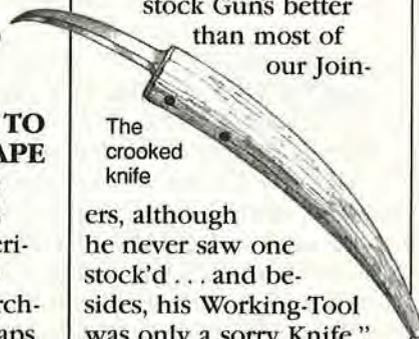
The canoe builder relied on an ingenious method. He repeatedly split a cedar billet halfway down its length, dividing the wood into dozens of thin leaves, like the many pages of a book (see illustration above).

The piece could then be readily bent as the leaves slid past one another. Glued in place with pine resin, the prow piece retained its shape and had the great

strength of multiple layers of laminated wood.

CARVING AND THE CROOKED KNIFE

From the earliest days of contact, the Europeans marveled at Indians' woodcarving skill. John Lawson, the English explorer, wrote in 1709, "I have known an Indian stock Guns better than most of our Join-



The crooked knife

ers, although he never saw one stock'd . . . and besides, his Working-Tool was only a sorry Knife." Lawson also noticed that "When they cut with a Knife, the Edge is towards them." Lawson may have described the crooked knife, shown above, which probably began as a beaver tooth set in a handle made of bone.

In the five years that remained of Ishi's life, he gave a priceless window into his vanished world. Archaeologists continue to explore Stone Age technology by making stone tools, whereas Ishi shared firsthand his master craftsmanship. 🌿

By Roy Underhill

Master housewright at Colonial Williamsburg, host of the popular PBS series *The Woodwright's Shop*, author, and lecturer.

Illustrations: Jim Stevenson

KING CHERRY

A story about prime Pennsylvania furniture wood, the people who bring it to you, and—Oh deer!—its future.

WOOD® OFF THE ROAD

Why trudge the winter woods to look at trees? That's what I wondered when I first talked with Jonathan Wirth, a Kane, Pennsylvania forester. "We have more of the very best cherry than any other place in the country," he replied over the telephone. "But, unless we can do something about the deer numbers, cherry may not be here in the future!"

Sure enough, in that idyllic mountain setting where huge black cherry trees are as abundant as toothpicks at a sweet-

corn festival, foresters have a problem. Deer. Bambi aside, foresters believe the area has just too many of these cute critters for the future good of the state's cherry resource. I saw the problem firsthand, and now realize why this favored cabinet wood continually rises in price. I also got an up-close look at the people and the practices that try to assure tomorrow's supply.

Peter J. Stephano
Features Editor



Pete Stephano brushes snow from next century's cherry trees.





Cherry brings the whole world to Kane," says Ed Kocjancic with the knowing grin of a successful wood trader. "Canadians. Europeans. Japanese. Taiwanese. Here's the only area in the world where they can get a very valuable wood in quantity. And cherry has been king here for a long time."

According to Ed, an experienced forestry consultant who sells veneer logs internationally, 75 percent of the best quality cherry anywhere grows within a 30-mile radius of Kane (pop. 5,000), the hub of hardwood logging in the Allegheny Mountains of Pennsylvania.

Ed explains why buyers beat a path to Kane. "The color, the low gum content, the straightness of grain, the lack of knots," he says without hesitation. "There's probably a dozen defects that buyers look for, but they find fewer of them here, and get size."

Size indeed! Cherry logs containing 1,000 board feet of this classic cabinet wood aren't rare. And, sawmills around Kane process cherry boards 4" thick.

CHERRY: A GIFT FROM YESTERYEAR'S LOGGERS

Without knowing it, the turn-of-the-century loggers and lumber companies created another vast wood resource when they cleared white

pine and hemlock from the Allegheny Plateau forest. In felling the overhead canopy of interlocked branches, they bathed the forest floor in sunlight. Ash, cherry, and other hardwood seeds lying dormant in the debris of the forest floor responded and quickly sprang up as a carpet of seedlings.

Eighty-odd years later, the eight-county region where the great conifer forests once stood now boasts stands of fine cherry and the other hardwoods foresters dub as the "Allegheny hardwood subtype."

"The quality comes with the quantity," remarks Mike Collins, vice president of Kane Hardwood, a major sawmill in the area three hours drive north of Pittsburgh. "Where trees naturally grow the best, they also produce quality."

Kane Hardwood, its 150 employees and the platoons of loggers who contract to bring in the timber, as well as the 50 or so other sawmills within an hour's drive, depend on that quality and quantity. Mike, a forester by profession, has the responsibility for feeding the mill its annual log diet of 20 million board feet. Of that, cherry and red oak make up roughly 60 percent.

What the future holds, particularly for cherry, has the graying executive perplexed. That's because growing cherry and other commercial hardwoods in Pennsylvania differs greatly from the cut-and-replant softwood forestry practiced in the South and West. In Pennsylvania's hardwood forests, nearly all new trees occur naturally, from fallen seeds, pits of their fruit, or stump sprouts of harvested trees, a process called "regeneration."

Instead of planting young trees, foresters manipulate their harvesting methods and amounts of timber taken at any one time to encourage the growth of desirable lumber species. Their success in regenerating a forest, though, depends on a sufficient number of seedlings already beginning to grow under the mature trees to be harvested, a situation they call "advance regeneration."



▲ Ed Kocjancic grades the cherry veneer logs he sells on the world market. He points to a log's core flaw.

Continued

KING CHERRY

To foresters, that means to harvest an acre of 100 trees in 80–100 years, advance regeneration must number 10,000–100,000 seedlings on that same acre! The stupendous number allows for natural casualties from weather, disease—and particularly in the Allegheny Plateau around Kane—deer.

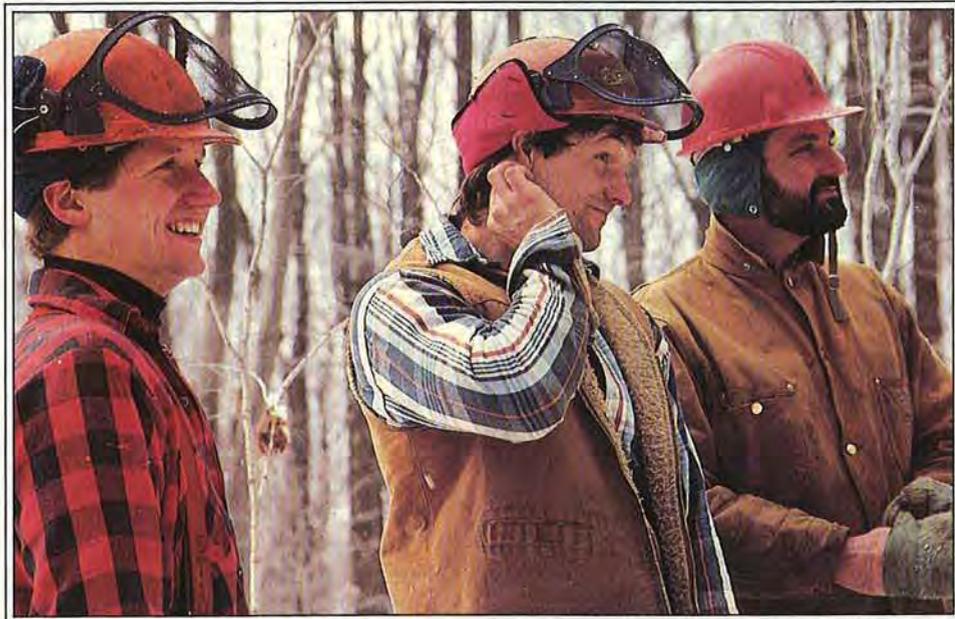
MORE FAUNA THAN FLORA IN THE ALLEGHENIES

“Deer run real thick in places,” says Mark Kulka, 27, a logger who, with the help of younger brother, Scott, 23, contracts to cut cherry and other species for Kane Hardwood. “I was cutting down by the Elk County line late last winter,” Mark recalls, “and there were just herds of them coming out of the timber. I hit one with a tree I dropped, it got that close.”

“That’s what I said,” exclaims Jonathan Wirth, 35, a forester who works for Kane Hardwood. On the drive from town to the logging site, he remarked that in the winter when food is scarce, deer respond to the sound of a chain saw as if it were a dinner bell.

Deer browsing tender new growth from the tops of downed timber prove an amusing nuisance to loggers on the Allegheny Plateau. However, to Dr. David Marquis, head of the U.S. Forest Service’s silviculture (tree-growing) research unit in nearby Warren, those instances mean more. Deer threaten the quality, value, and diversity of the region’s wood resource.

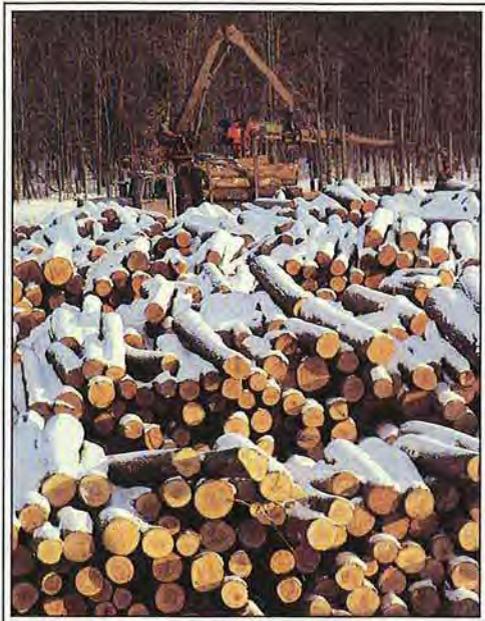
The research forester’s laboratory doesn’t have walls. It’s situated a half-dozen miles into the national forest from the nearest country crossroad. There, a 200-acre study area divided and subdivided by fences shows what happens to the forest under different deer populations. “Eastern forests can only support about 15–20 deer per square mile. The Pennsylvania Game Commission estimates the per-square mile deer population around here to be between 30–35,” states Dave. “I think there’s more deer than that out there.”



▲ Deer hamper logger Mark Kulka, center, when working the winter woods. His brother, Scott, left, and forester Blaine Puller look over the logging site.

▼ Endless stacks of glowing orange cherry, some containing boards 4" thick, cover the yard at Kane Hardwood, a major sawmill.





▲ Ash, cherry, maple, and red oak from the surrounding Allegheny Mountains to feed the mill keep the economy alive around Kane, Pennsylvania.



In his mini-forests, this guru of Allegheny hardwoods has discovered just what effect deer have on timber growth (see sidebar on page 57). "In the real world of the Allegheny Plateau—an area of about three million acres—if you just cut stands that were ready to be harvested right now, you'd end up with a total failure of regeneration in at least half of them, due to deer browsing. Grass or fern that deer don't eat would block seedling growth. The other half of the stands might end up with 15 percent all beech and striped maple with little commercial value. With luck, the rest would have cherry.

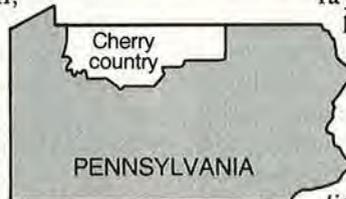
"Add it up," he says, his face set in stone-like seriousness. "On at least two-thirds of your land base you wouldn't have anything valuable to leave for the next century."

CULTIVATING CHERRY IN BAMBI'S BACKYARD

Despite research and forest floors chewed to desolation, Pennsylvania deer hunters still insist there aren't as many deer as there used to be. Talk of reducing the local deer herd through longer

hunting periods, special doe-only seasons, and concentrating hunters in heavily browsed timber-producing areas brings outcries from sportsmen who fear depletion. Yet, even state game biologists agree that the deer herd must be brought in balance with the land. The reward for hunters would be larger, trophy-sized deer and an abundance of other game that requires a healthy forest habitat for survival.

"Hunters think about the thirties and forties when we had nothing but brush here," moans Roe (Sandy) Cochran, a Penn State University area forest resource agent. Sandy counsels land owners on forestry practices as part of his job, and remembers roaming the woods as a young man. "At that time, there was so much food the deer couldn't possibly hurt it."



According to Kane Hardwood's executive Mike Collins, artificial remedies exist to combat deer as well as fern. Fences have been tried to keep deer out. Spraying fertilizer by helicopter to get the seedlings up in a hurry was another solution. Even herbicides to kill ferns were attempted. "All methods prove too expensive," notes Mike. "Spraying can cost \$200 an acre. Put that in the bank at even six percent interest and you could make more in 80 years than you could from the trees. Down the road, these expenses can't pay themselves back."

Sawmill operators like Mike play an unpopular "wait and see" game until the deer population balances with the carrying capacity of the land. Meanwhile, harvest delays raise the cost of cherry.

Here's why. Foresters must wait for a stand to develop sufficient advance regeneration (in number and size) to survive the deer before they can cut the mature trees. De-

lays represent dollars lost, since after reaching maturity, tree quality decreases rapidly. Delay exposes a stand to disease, rot, wind, and lightning damage. Dollar losses directly related to overbrowsing have been estimated at more than \$1,000 per acre, or about half the value of the standing trees on that acre at harvest time.

Mike expresses his and other lumbermen's dilemma, "The lands that we own we intend to manage forever. Today, I'm concerned about how to get a tree back for every one that's cut."

In the section of forest that he manages for Kane Hardwood, forester Blaine Puller follows silviculture techniques to provide cherry for tomorrow. "You have to work a forest like a garden—pull the weeds and tend the tomatoes," advises the veteran woodsman, sounding like Will Rogers in hardhat and hiking boots. "But how I tend the forest depends on the type of trees I want to grow for the future."

Continued

KING CHERRY

Blaine has two options: uneven-age silviculture or even-age silviculture. Each produces a different crop. Uneven-age management maintains trees of several ages in the same stand. Over years of development, foresters direct the removal of some trees of each age to provide growing space for those that remain. Seedlings of the new stand develop in partial shade.

Since the loggers never completely cut the stand, the seedlings grow slowly. In this always natural-looking management form that's preferred for recreational land and small acreages, shade-tolerant species such as beech, hemlock, and sugar maple dominate.

In even-age management, trees all approximately the same age grow in stands covering up to 100 acres. Periodic thinnings improve tree quality and size. When the majority of the stand matures, loggers harvest the trees and a new generation of seedlings takes their place.

Valuable hardwood species such as ash, cherry, yellow poplar, and red oak tend to grow faster when exposed to the abundant sunlight of a newly harvested stand. That's why commercial foresters in Pennsylvania's cherry region practice even-age management on high-yield timber lands.

HELPING GOD OUT ON THE ALLEGHENY PLATEAU

Glancing around him at the towering cherry trees, their blackish bark rough verticals against the gray winter sky, Jonathan Wirth remarks, "A forest isn't a static thing. It's always changing. If we do nothing, it will change." Blaine joins in: "What we do is help out God."

Terry Collins, great-grandson of Kane Hardwood's founder, works as a forester alongside Blaine and Jonathan. He expresses a forester's philosophy: "You have to plan for tomorrow, knowing there will be a future benefit for what you do today. My family has been in the lumber business for four generations, and I'd like to think it will continue generations more."

Part of planning for the future means standing in the calf-deep snow today. Blaine and Jonathan shrug the cold and study the woods around them.

The 1,000-acre forest parcel (called a warrant in Pennsylvania) falls within Jonathan's 86-square mile district of responsibility. He has to call the shots that will hit tomorrow's target. "We started cutting here this winter. We've thinned with what we call a shelterwood cut rather than clearcut because enough of the trees weren't ready. We left most of the nice trees to grow some more." He points to some tall, but still small-diameter cherry. "We took a few ripe tomatoes, and weeded."

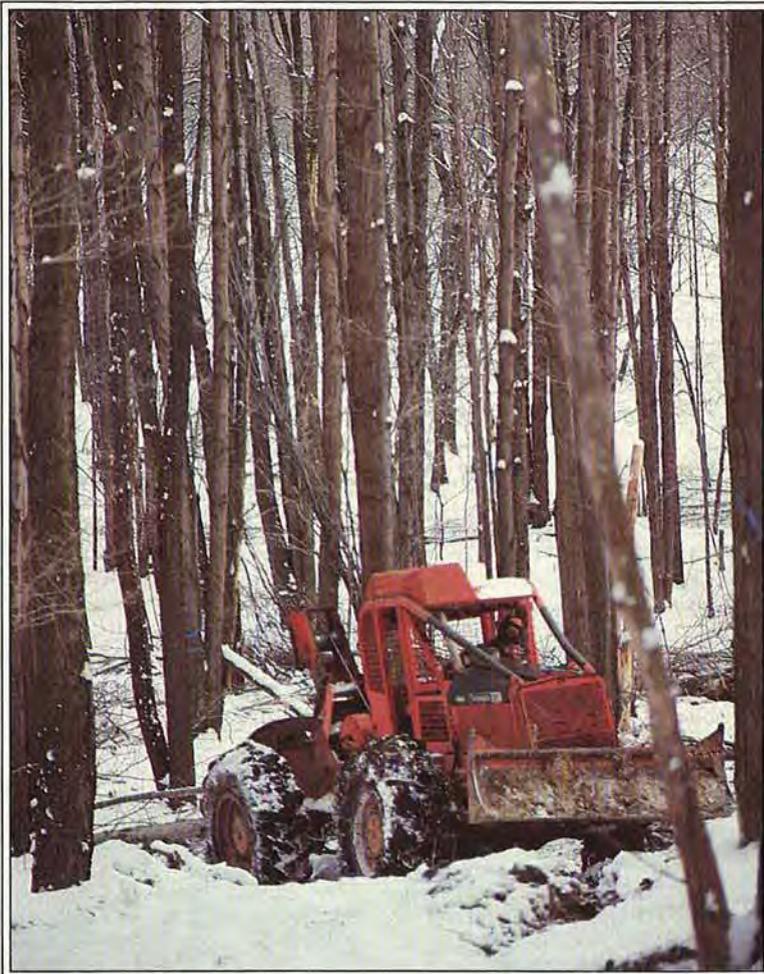
Poking through the snow, the twig-thin and kneecap-high cherry seedlings of advance regeneration appear frail and vulnerable. Commenting on them, Jonathan says, "If we had regeneration that was head-high—beyond the reach of deer—we would have had to decide whether or not to clearcut it. I didn't think we had enough of that yet. Rather, we needed to encourage seedlings by opening up the stand by thinning."

Indicating the slash piles made up of limbs cut from the downed timber, Jonathan notes, "The slash covers the seedlings and protects them from browsing."

In perhaps 10 years, logging crews will return to the stand and begin clearcutting the timber. "If" says Jonathan, "the cherry and other seedlings are tall enough and the trees have increased their diameter. It's an educated 'guess-and-by-golly' until everything turns right and you can cut and start the new stand over again."

Foresters such as Blaine, Jonathan, and Terry don't expect instant results or immediate satisfaction. The best they hope for is that sometime in the future another forester will walk where they've worked and say, "What a great forest." And in the Pennsylvania Alleghenies, that includes the hope that in the forest cherry will remain king.





▲ A skidder draws large ash, cherry, and sugar maple logs for lumber from the stand. Small beech and soft maple logs become paper pulp.



▲ The driver feeds the chain to secure his load. The cherry log at lower left bottom of the stack might contain about 800 board feet.
 ◀ Forester Jonathan Wirth measures a "ripe tomato" in his forest garden. Cherry trees need light to grow, so loggers thin the stand.

WHAT HAPPENS WHEN YOU HAVE TOO MANY DEER?



Not unlike livestock overgrazing to lay waste a grassland, the dining of too many deer can harm a forest. Following eight years of a continuing study of the effect of deer on the Allegheny Plateau forest, Dr. David Marquis has found that:

- *An overpopulation of deer eventually eliminates all their first-choice food, leaving only hardwood seedlings. When deer eat them, they alter the composition and growth of the future forest.*

Deer concentrating on seedlings for a meal potentially pose another problem. Because deer dislike fern, the plant spreads like wildfire when a forest is opened up, not allowing much else to grow.

- *Deer browsing influences the types of trees that will grow in a forest.* In an area with lots of deer, sugar maple, ash, and yellow poplar get eaten right away, leaving the second-choice cherry and the last-choice striped maple and beech. And because the cherry grows faster where there's sunlight, in some places it can dominate, creating a monoculture. The forest of cherry then becomes subject to outbreaks of disease and insects that could wipe it out.

- *Deer can't survive on cherry alone. In the 100 years it takes for a forest to develop, the deer herd could in fact eat themselves into a situation where they couldn't survive in what they created.* 🌲

Written by Peter J. Stephano
 Photographs: Jim Kascoutas;
 deer, above, U.S. Forest Service
 Illustration: Mike Henry

A PROJECT THAT'S TALL, BRIGHT, AND HANDSOME

TORCHÈRE EXTRAORDINAIRE

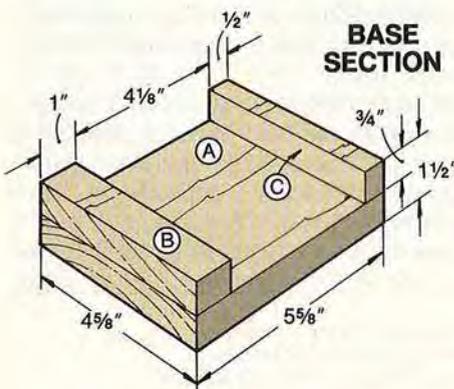
People in the home furnishings industry call an accessory like this a torchère, a French word meaning torch holder. Regardless of what you call it, we think you'll find this floor lamp a stunning addition to your home's decor. It's everything a dark, uninspiring corner always wanted.

Note: You'll need some thin oak and walnut stock for this project. You can either resaw or plane thicker stock to the correct thickness. See the Buying Guide on page 62 for our source of electrical parts for the lamp.

FIRST, BUILD THE BASE

1 Cut the base parts (A, B, C) to the sizes listed in the Bill of Materials on top of the opposite page. (If the dimensions in the Bill of Materials appear confusing, remember that we measure width across the grain and length with the grain.)

2 With the ends and edges flush, glue and clamp each of the eight base sections together, positioning the pieces where shown on the Base Section Drawing below. Later, scrape off the excess glue. (Part C is used only to support each base piece when it is miter-cut to shape. Part C is cut from each base section during the miter-cutting process.)



3 Attach a wood auxiliary fence to your miter gauge where shown in Step 1 of the drawing titled "Miter-Cutting the Base Sections." To keep the fence from getting cut in two when miter-cutting, make the fence at least 2" high. Angle the miter gauge $22\frac{1}{2}^\circ$ from center. (See our miter-cutting shop tip on page 14 for help with setting the angle.)

Note: Before cutting the eight base sections to shape as described in Step 4 below, we cut eight pieces of scrap hardboard the same size as part A ($4\frac{5}{8}'' \times 5\frac{5}{8}''$). Then, we test-cut the eight hardboard pieces using the setup shown in steps 1 and 2 on the drawing on the opposite page. Finally, we held the test-cut pieces together to check for gaps and verify the miter-gauge setting.

4 Mark a centerline on one end of one base section (see Step 1 on the two-step drawing for location). Being careful to keep the clamp holding the stop out of the saw blade's path, align the blade with the marked line, set the stop, and cut the base sections to shape. Refer to the two-step drawing for details.

5 Using a $\frac{1}{4}''$ round-over bit, rout each pie-shaped base section where shown on the Exploded-View Drawing. (We routed ours on a table-mounted router fitted with a fence.) Sand each base section.

6 Glue and "clamp" four of the sections together on a piece of plywood covered with waxed paper as

Continued



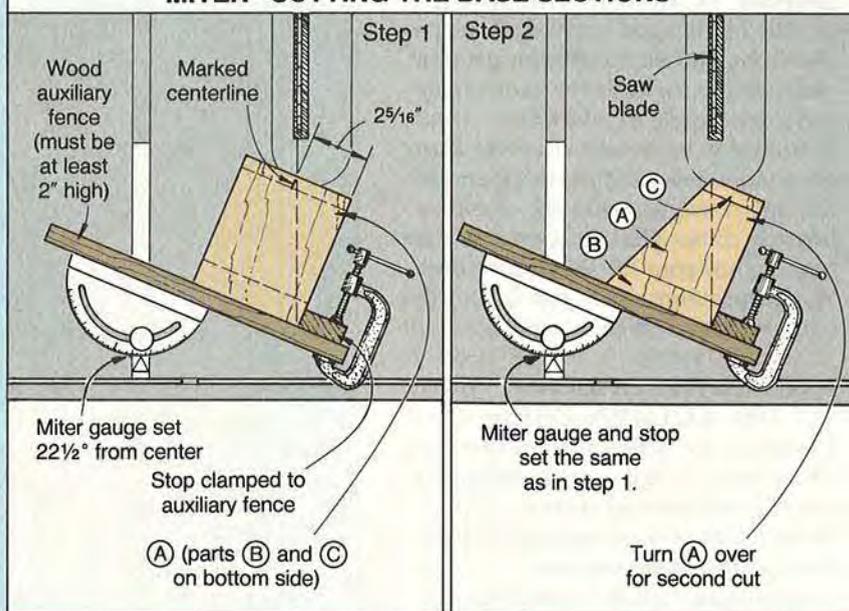
Bill of Materials

Part	Finished Size*			Material	Qty.	Part	Finished Size*			Material	Qty.
	T	W	L				T	W	L		
BASE						SHADE					
A	3/4"	4 5/8"	5 5/8"	walnut	8	F*	1/4"	3 1/4"	12"	oak	8
B	3/4"	4 5/8"	1"	walnut	8	G	3/4"	7 1/4"	7 1/4"	plywood	1
C	3/4"	4 5/8"	1/2"	walnut	8	H	3/4"	1 7/8"	1 7/8"	plywood	1
COLUMN						I	1/4" diameter	1 5/8"	walnut dowel	1	

Supplies: #8 x 2" flathead wood screws, #8 x 1 1/4" flathead wood screws, #8 x 3/4" flathead wood screws, epoxy, masking tape, aluminum foil, finish, three-way A lamp (30-70-100 watt).

*Parts marked with an * are cut larger initially, and then trimmed to finished size. Please read the instructions before cutting.

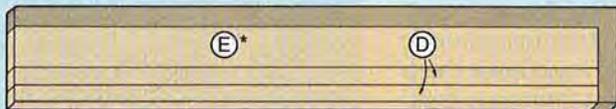
MITER-CUTTING THE BASE SECTIONS



Cutting Diagram



3/4 x 5 1/2 x 72" Walnut



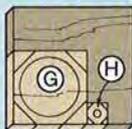
3/4 x 9 1/4 x 60" Walnut

*Planed to 5/8"

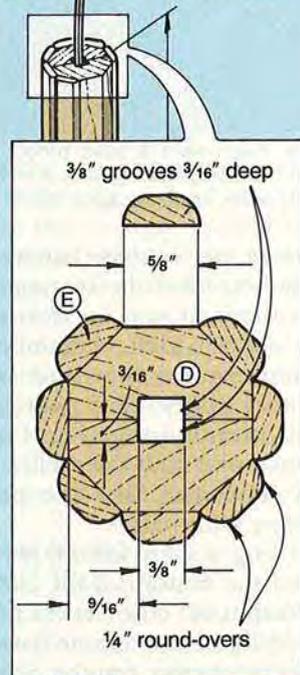
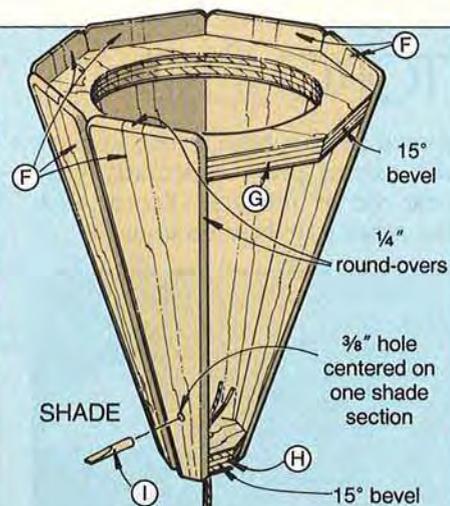


3/4 x 5 1/2 x 60" Oak

The 3/4" board is resawed into two 1/4" boards

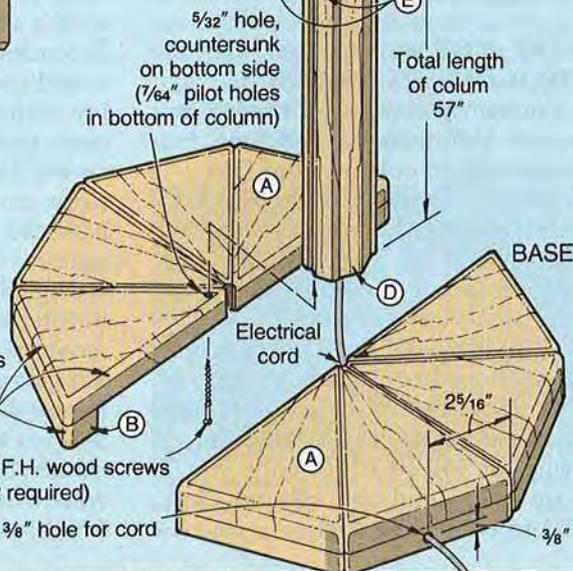


3/4 x 12 x 12" Plywood



COLUMN

GROOVE
DETAIL



TORCHÈRE

shown in the photo *below*. Remove the excess glue, especially glue near the round-overs. Repeat with the other four base sections.



Glue four walnut base pieces together and hold in place against a straightedge with nails until the glue dries.

7 Hold the two base half-assemblies together; joint the mating edges if necessary. If you need to machine for a flush joint, remember to re-rout a round-over and sand the jointed edges. Glue and hold the half sections together (we positioned the half-assemblies on the plywood and held the pieces together with nails).

8 Using a sharp chisel, pry parts C from the bottom of the base.

9 Drill a $\frac{3}{8}$ " cord access hole, centered in the *end* of one base section where shown on the Exploded-View Drawing. Now, drill a $\frac{3}{8}$ " cord access hole through the *top center* of the base where shown on the same drawing.

NEXT, FORM THE COLUMN PIECES

1 Cut two pieces of $\frac{3}{4}$ "-thick walnut to $1\frac{5}{8}$ " wide by 58" long for the laminated-column core (D).

2 Cut or rout a $\frac{3}{8}$ " groove $\frac{3}{16}$ " deep, centered along one face of each piece of walnut. (See the Groove Detail accompanying the Exploded-View Drawing.)

3 Glue and clamp the column pieces together groove to groove with the ends and edges flush. Later, scrape off the excess glue. Now, plane the jointed edges only; you'll want the laminated column core (D) to be $1\frac{1}{2}$ " square.

4 Position your tablesaw rip fence, and tilt the blade where shown on the drawing at *right*. Bevel-rip each corner of the column core where shown on the drawing. Measure the width of all eight faces of the column core; you want each face to measure $\frac{5}{8}$ ". Recut if necessary.

5 Cut a piece of $\frac{3}{4}$ "-thick walnut to 4" wide by 58" long. Plane the piece to $\frac{5}{8}$ " thick. You want the board *thickness* to equal the *width* of each face ($\frac{5}{8}$ ") on the column core. (We reduced the thickness on our jointer; use a planer if you have one.) Position the fence on your tablesaw $\frac{1}{4}$ " from the inside edge of the blade, and cut eight strips (E) from the walnut board, using a push stick for safety. Each strip should measure $\frac{1}{4} \times \frac{5}{8} \times 58$ ".

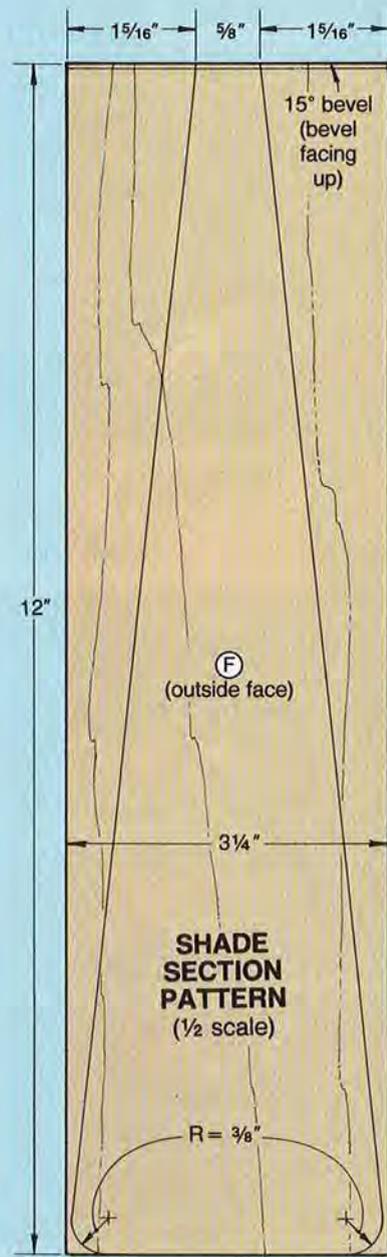
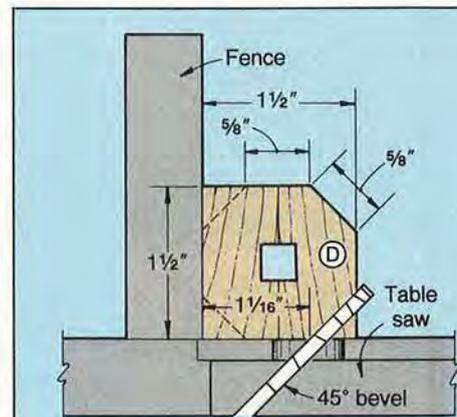
6 Chuck a $\frac{1}{4}$ " round-over bit into your table-mounted router. Because the strips are too thin for the bit's bearing to be effective, position the fence and rout a $\frac{1}{4}$ " round-over along the two outside faces of each strip. Finish-sand each strip.

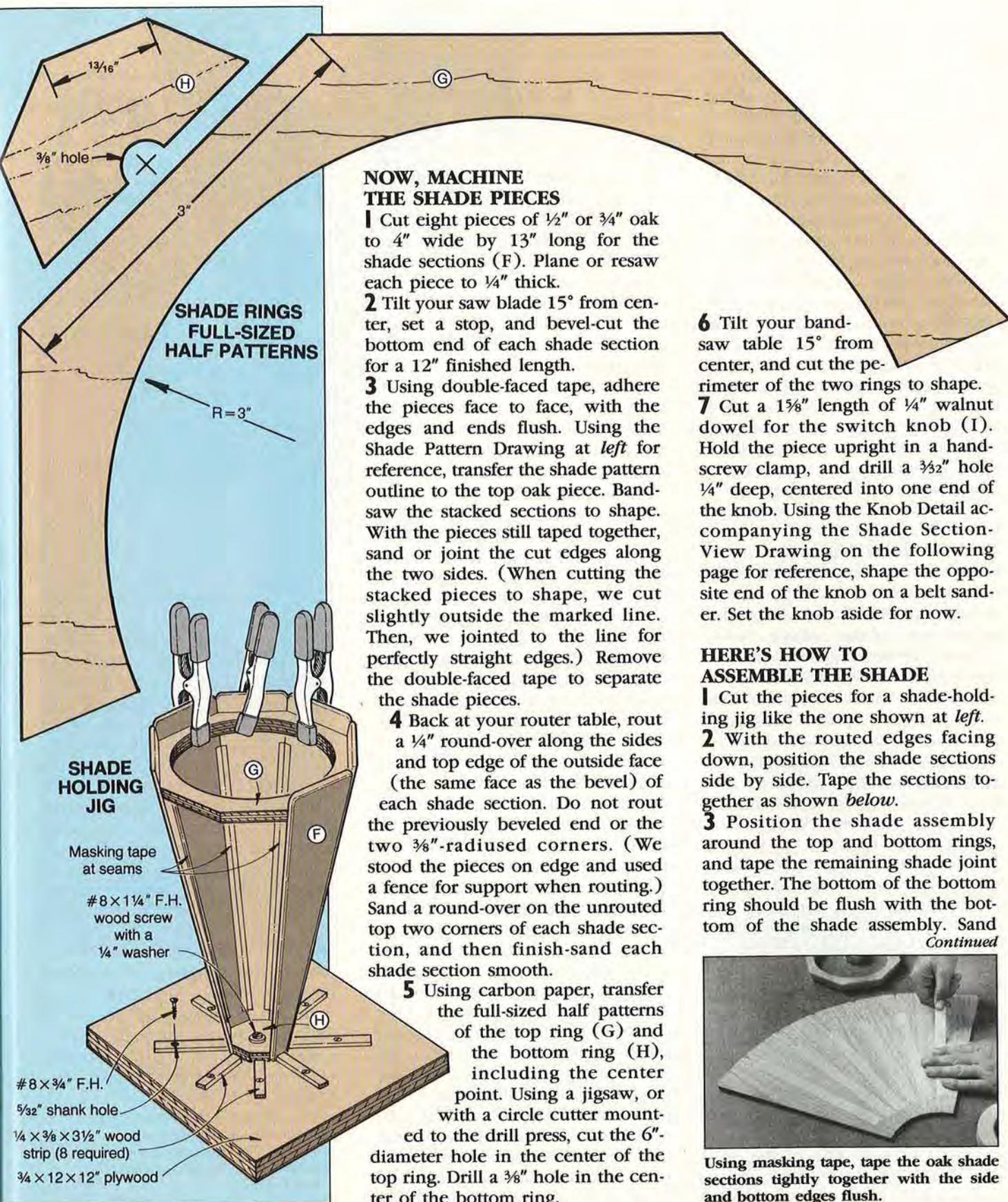
ATTACH THE STRIPS TO THE COLUMN CORE

1 Position the strips around the column core, holding the strips in place with several rubber bands. Wrap loops of masking tape around the column (we wrapped six loops around the column, spacing the loops about 8" apart). Moving in a straight line down the column, cut each loop of masking tape once with a utility knife.

2 Remove the rubber bands, and unroll the tambour-like strip assembly. Using a small brush, apply an even coat of glue to the column core (D). Wrap the taped-together strips around the column core and hold in place with several large rubber bands. (We used a few spring clamps to help hold some unruly strips firmly in place.) Remove the tape, and immediately wipe the excess glue from the crevices with a damp cloth.

3 After the glue dries, remove the rubber bands. Then, crosscut both ends of the column for a 57" finished length.





NOW, MACHINE THE SHADE PIECES

1 Cut eight pieces of 1/2" or 3/4" oak to 4" wide by 13" long for the shade sections (F). Plane or resaw each piece to 1/4" thick.

2 Tilt your saw blade 15° from center, set a stop, and bevel-cut the bottom end of each shade section for a 12" finished length.

3 Using double-faced tape, adhere the pieces face to face, with the edges and ends flush. Using the Shade Pattern Drawing at left for reference, transfer the shade pattern outline to the top oak piece. Band-saw the stacked sections to shape. With the pieces still taped together, sand or joint the cut edges along the two sides. (When cutting the stacked pieces to shape, we cut slightly outside the marked line. Then, we jointed to the line for perfectly straight edges.) Remove the double-faced tape to separate the shade pieces.

4 Back at your router table, rout a 1/4" round-over along the sides and top edge of the outside face (the same face as the bevel) of each shade section. Do not rout the previously beveled end or the two 3/8"-radiused corners. (We stood the pieces on edge and used a fence for support when routing.) Sand a round-over on the unrouted top two corners of each shade section, and then finish-sand each shade section smooth.

5 Using carbon paper, transfer the full-sized half patterns of the top ring (G) and the bottom ring (H), including the center point. Using a jigsaw, or with a circle cutter mounted to the drill press, cut the 6"-diameter hole in the center of the top ring. Drill a 3/8" hole in the center of the bottom ring.

6 Tilt your band-saw table 15° from center, and cut the perimeter of the two rings to shape.

7 Cut a 1 5/8" length of 1/4" walnut dowel for the switch knob (I). Hold the piece upright in a hand-screw clamp, and drill a 3/32" hole 1/4" deep, centered into one end of the knob. Using the Knob Detail accompanying the Shade Section-View Drawing on the following page for reference, shape the opposite end of the knob on a belt sander. Set the knob aside for now.

HERE'S HOW TO ASSEMBLE THE SHADE

1 Cut the pieces for a shade-holding jig like the one shown at left.

2 With the routed edges facing down, position the shade sections side by side. Tape the sections together as shown below.

3 Position the shade assembly around the top and bottom rings, and tape the remaining shade joint together. The bottom of the bottom ring should be flush with the bottom of the shade assembly. Sand

Continued



Using masking tape, tape the oak shade sections tightly together with the side and bottom edges flush.

TORCHÈRE

the beveled edges of the rings if necessary for a snug fit. (The rings shouldn't force the taped joints apart.) Remove the tape from the areas on the inside of the shade that mate with the shade rings.

4 Remove the rings from the shade interior, and screw the bottom ring to the holding jig. Apply glue or epoxy to the beveled edges of each ring. Position the shade assembly around the bottom ring and position the top ring in place where shown on the Shade Holding Jig Drawing on the previous page. While you hold the shade upright, have a helper screw the cleats in place to hold each section firmly against one beveled face of the bottom ring. Hold the top ring in place with spring clamps. After the glue dries, remove the cleats and remaining masking tape. Unscrew the small ring from the holding jig.

YOU'RE ALMOST TO THE FINISH LINE

1 To mount the column to the base, start by cutting a 5" length of $\frac{3}{8}$ " dowel. Stick the dowel 3" into the bottom end of the column. Now, stick the doweled end of the column into the $\frac{3}{8}$ " hole in the center of the base. From the bottom side of the base, drill a pair of shank and pilot holes. Then, screw and epoxy the column to the base, *checking that the column is square to the base*. Remove the $\frac{3}{8}$ " dowel before the epoxy sets. Immediately wipe off any excess epoxy.

2 Thread the brass socket cap onto the top end of the threaded nipple. (See the Shade Section Drawing *above right* for help with the electrical wiring terminology we're using.) Tighten the setscrew.

3 Thread the nipple assembly through the hole in the small ring (H) until the bottom of the socket cap rests on the top face of the small ring (H).

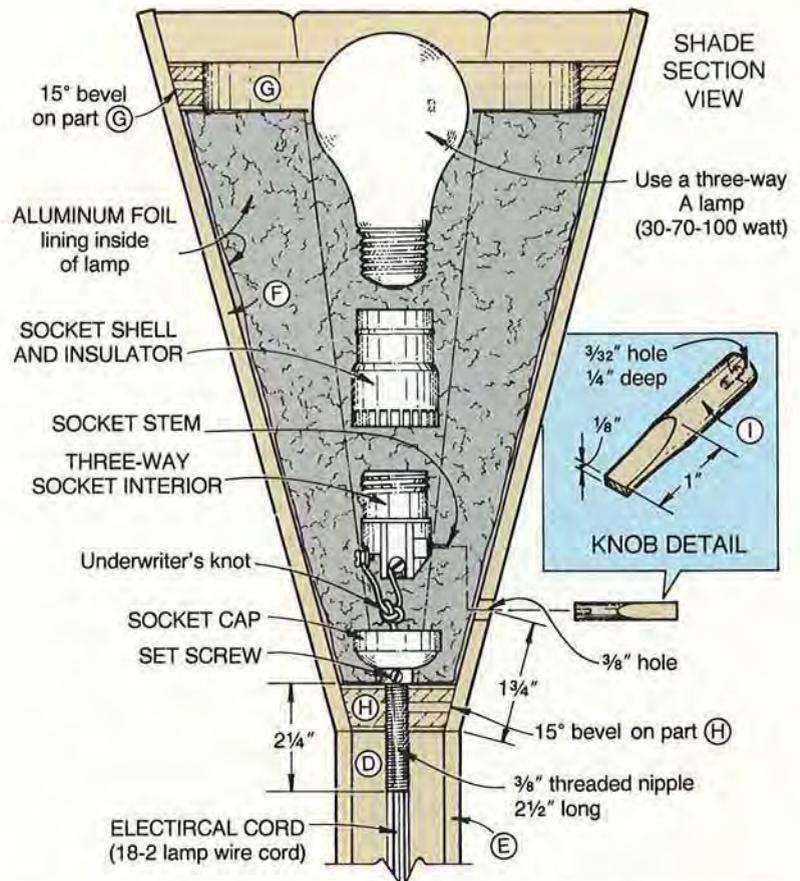
4 Place the shade assembly on top of the column. Thread the exposed end of the nipple into the square hole in the small ring of the column. Align the joints of the shade sections with those of the column.

Sand the bottom of the shade and top of the column flush if necessary. Make a small reference mark for later realigning the shade to the column. Now, remove the shade from the column.

5 To join the shade to the column, apply epoxy to the bottom surface of the bottom ring and to the exposed portion of the threaded nipple. Position the shade on the column, realigning the joints and reference mark. Immediately remove any excess epoxy.

6 Finish-sand the entire project (don't forget to sand away the reference mark). Apply a clear finish to the lamp and switch knob.

7 Fish the cord down through the socket cap, column, and through the holes in the base. Split the top 3" of the cord, bare the ends, and tie an Underwriters knot above the socket cap. Wire the ends to the three-way socket. Push the socket into the socket cap. (To prevent the cord from doubling up in the column, you'll need to tug slightly on the bottom end of the cord when pushing the socket into the socket



cap.) Attach a male end to the bottom end of the cord.

8 Carefully mark the knob-hole location on the outside of the shade assembly (see the Shade Section and Exploded-View drawings for location). With the lamp standing upright, hold your drill level with the floor, and drill a $\frac{3}{8}$ " hole for the switch knob (I).

9 Epoxy the switch knob onto the switch stem. Line the shade with aluminum foil. (The aluminum foil helps reflect light and radiate heat.) Install a three-way A lamp (30-70-100 watt).

BUYING GUIDE

• **Electrical supplies.** $\frac{3}{8}$ " threaded nipple 2½" long, light bulb socket with 3-way switch, 12' length of 18-2 lamp wire cord, male end for cord. \$12.50 ppd. from Albright Lighting, 3029 Ingersoll Ave., Des Moines, IA 50312. 🌱

Produced by Marlen Kemmet
Project Design: James R. Downing
Photographs: Hopkins Associates;
Bob Calmer
Illustrations: Kim Downing; Bill Zaun

PERFUME DECANTER

THE ESSENCE OF SUCCESS



Another in a collection of patterns from the nation's top woodturners



Myles Gilmer

Company in Portland, Oregon. Now, this ambitious craftsman spends less time turning, and more time selling his prized stock to bowl-hungry turners.

To help you obtain these same results, Myles offers a kit containing the maple burl, ebony, glass vial, and perfume funnel necessary for making and using this project. Read the instructions starting below for Myles' turning technique.

FIRST, MAKE A SCRAP FACEPLATE

Myles starts by tracing the outline of his 3" metal faceplate onto a piece of 1"-thick stock. He cuts the piece round and screws the disc to his metal faceplate. After mounting the faceplate assembly to the lathe, Myles starts the lathe, and locates and marks the center of the wood disc by marking concentric circles.

Ten thousand lovers of perfume can't be wrong. That's how many of these stunning projects Myles Gilmer turned and sold before opening Gilmer Wood

Then, he drills a $\frac{5}{8}$ " hole $\frac{3}{4}$ " deep at the marked centerpoint. Next, he cuts a piece of $\frac{5}{8}$ " dowel stock $5\frac{1}{4}$ " long, and glues it squarely into the hole in the disc where shown on the drawing below titled Set-Up for Turning the Cylinder.

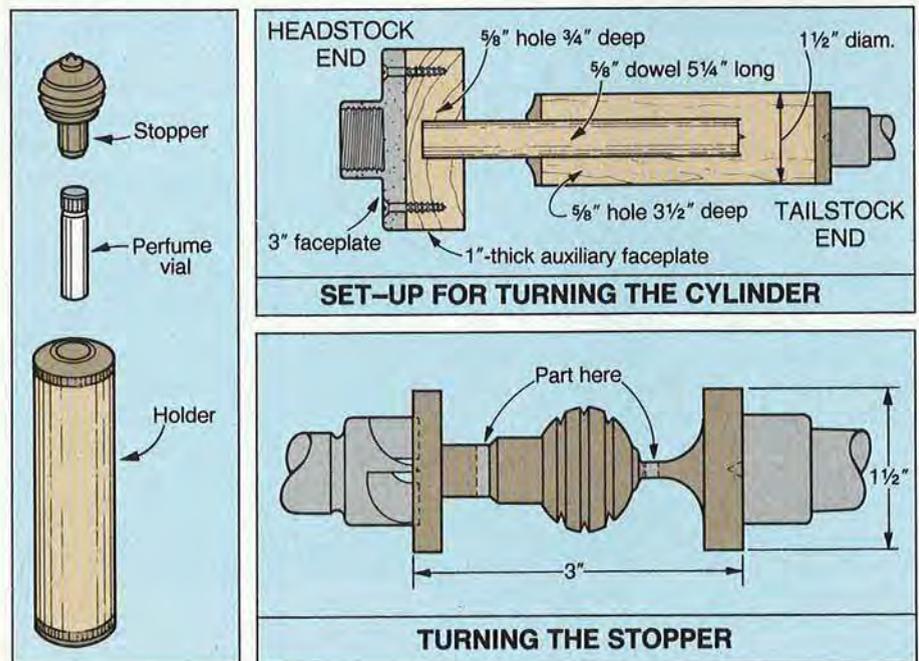
NEXT COMES THE CYLINDER

After cutting three pieces and laminating them together for the cylinder (the lamination measures $1\frac{1}{8} \times 1\frac{1}{8} \times 4\frac{3}{8}$ "), Myles moves to the drill press, and drills a $\frac{5}{8}$ " hole $3\frac{1}{2}$ " deep centered into one end of the lamination (see the Buying Guide for a predrilled lamination). Fitting the lamination over the protruding dowel and sliding the tailstock against the bottom of the lamination come next. Then, Myles turns the lamination to a $1\frac{1}{2}$ " diameter with a 1" gouge. After sanding the cylinder smooth, he stops the lathe, and slides away the tailstock.

SHAPE THE STOPPER

Myles cuts a block measuring $1\frac{1}{2}$ " square by 3" long for the stopper. After mounting it between centers where shown on the drawing below, and turning it round, he uses a $\frac{1}{4}$ " parting tool to create the beads and a $\frac{1}{4}$ " roundnose for the coves.

Continued on page 87



POUND FOR POUND, THE MOST CUTTING POWER YOU CAN BUY

PORTABLE

Although often thought of as a contractor's tool, few machines can perform as many cutting jobs in the workshop as a portable circular saw. Among home woodworkers, only portable drills outsell these rugged machines.

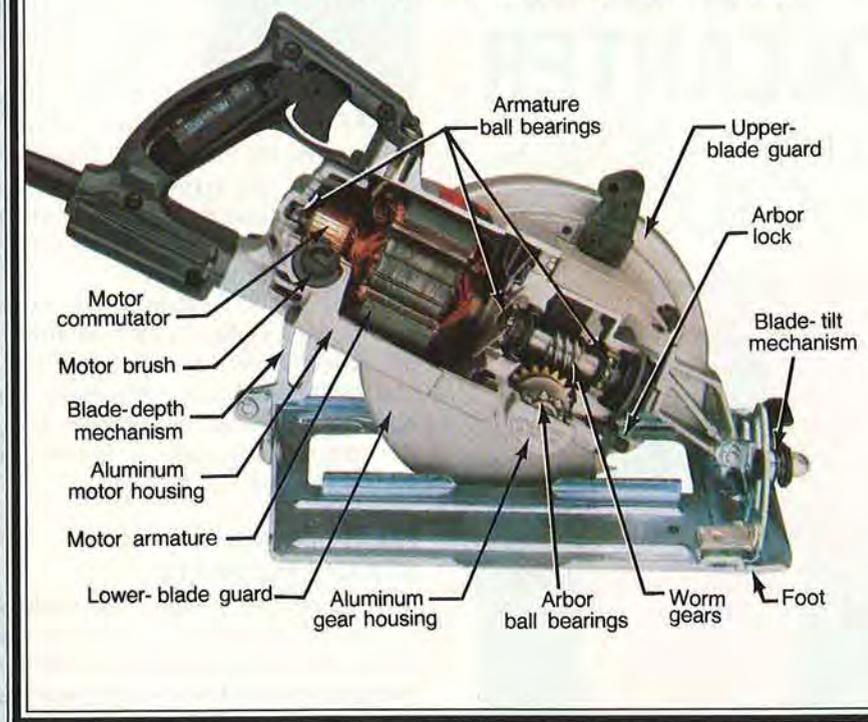
Mention the words "portable circular saw" and some woodworkers won't know what you're talking about. On the other hand, if you mention "Skilsaw," they'll probably think of the ever-popular models with 7¼" blades that dot the shelves of hardware and department stores from coast to coast. That's how much Skil Corporation, and 7¼" saws, have dominated this market for the past 50 years.

Today, Americans purchase more than 3 million of these units every year, making for some intense competition among foreign and domestic manufacturers. To earn their niche in this huge marketplace, companies make saws in more sizes, with more features, than ever before. To help you make sense of it all, we took a look at 20 machines ranging from small trimsaws weighing less than 6½ pounds, to 30-pound behemoths capable of slicing through 6" stock.

We discovered that the same reasons that make these kerf-crunchers a staple of the construction trade—fast cuts, portability, and rugged reliability—also make them great tools for the home workshop. In fact, there's no better tool for rough-cutting sheet goods, or anything else you can't conveniently bring to your table saw.

As *WOOD*® magazine Project Builder Jim Boelling puts it: "I find it much easier to work on a small piece of the pie, rather than the whole pie at once." What saw will best cut your "pies"? Stick around and we'll tell you.

ANATOMY OF A WORM-DRIVE SAW



BUY THE SIZE THAT FITS YOUR NEEDS

The size of a circular saw refers to the maximum diameter of blade it accepts. To choose the right size for your needs, first determine the thickest stock you normally cut. Then, refer to the chart on page 69 where we show you maximum cutting depths for various models. Since you'll have more control and less arm fatigue with a small saw, we suggest you buy the circular saw that's big enough for your needs, and no larger.

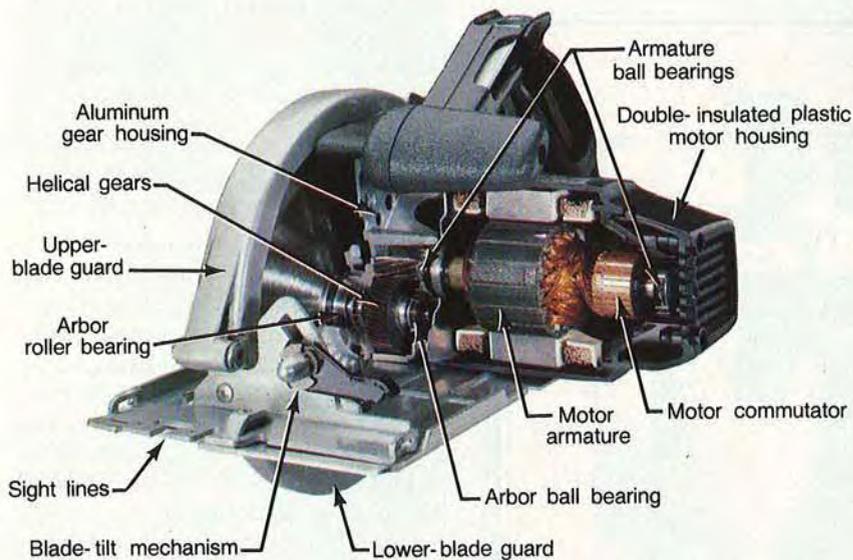
Although 7¼" saws hold between 80 and 90 percent of the market share according to manufacturers, a smaller saw may suit your needs. Why? The reason lies in the difference in size between 2×4 dimensional lumber of the 1930s and today. During the Thirties, 2×4s

actually measured 2×4". To meet the requirements of homebuilders who needed a saw capable of making a 45° cut through 2" stock, Skil developed the model 77, whose 7¼" blade could make such a cut. The 7¼" saws gained in popularity through the home-building booms of the 1940s and have since become the standard.

Today, lumber mills turn out 1½×3½" 2×4s, requiring only a saw such as the 6" Porter-Cable model 345 to make a 45° cut. The advantage? This saw weighs about 3 pounds less than most 7¼" saws. And it's the only saw that has two great optional items for the home workshop: a dust bag and a vacuum hose.

CIRCULAR SAWS

ANATOMY OF A HELICAL-GEAR SAW



WORM DRIVE OR HELICAL GEAR—WHAT'S FOR YOU?

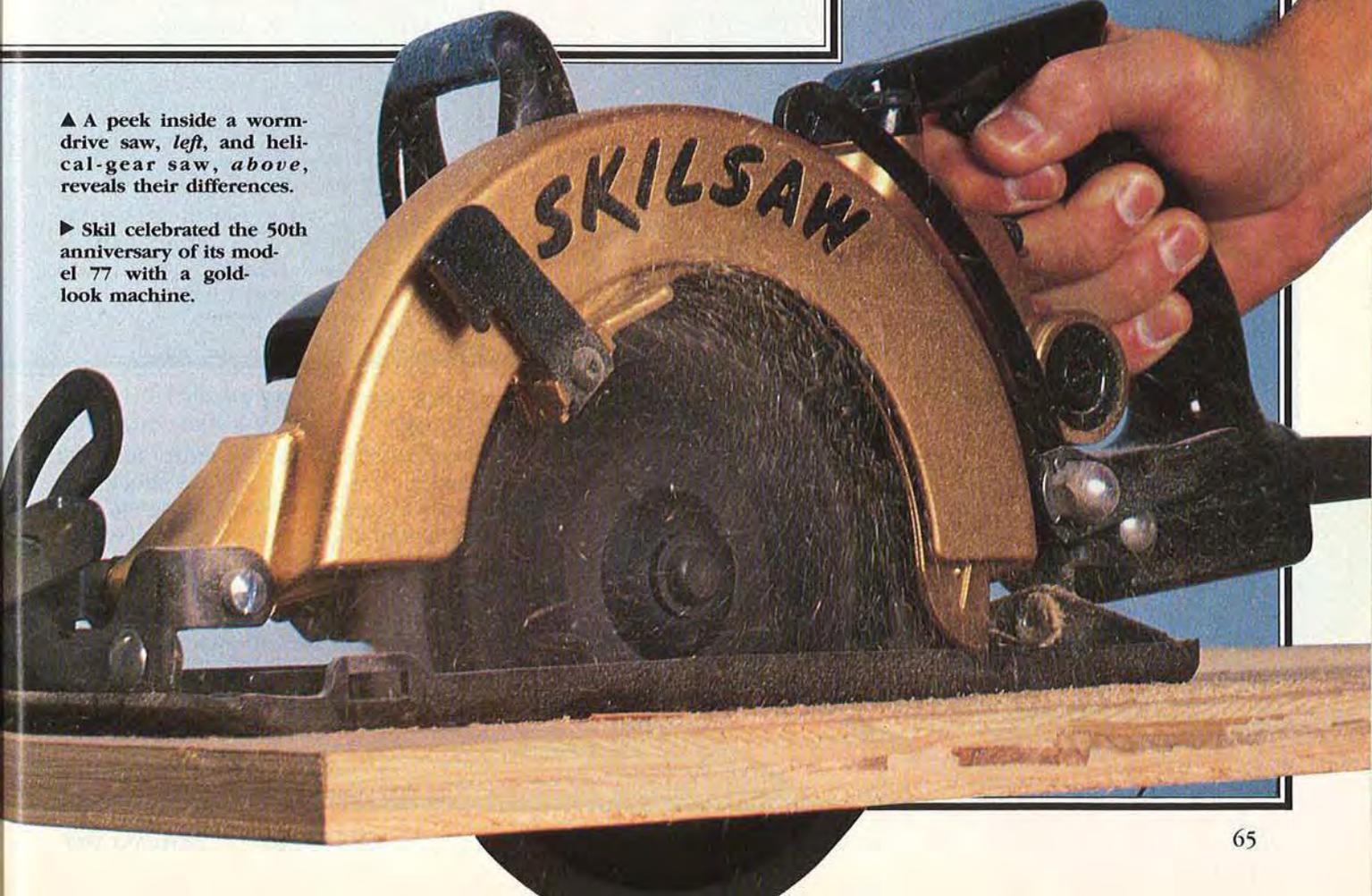
When most of us think of a portable circular saw, we envision the saw that engineers refer to as a helical-gear model such as the one shown at *left*. But another gearing choice presents itself when you buy a portable circular saw: worm drive (see machine at *far left*). Gearing may sound like a purely mechanical point, but it makes a world of difference in the torque, size, use, and price of the tool.

Although helical-gear saws command most of the consumer market, they're also sold to people in the construction trades. On the other hand, worm-drive saws find their way into the hands of contractors, but few homeowners. Nevertheless, we think worm-drive saws make a good choice for some home woodworkers.

Continued

▲ A peek inside a worm-drive saw, *left*, and helical-gear saw, *above*, reveals their differences.

► Skil celebrated the 50th anniversary of its model 77 with a gold-look machine.



PORTABLE CIRCULAR SAWS

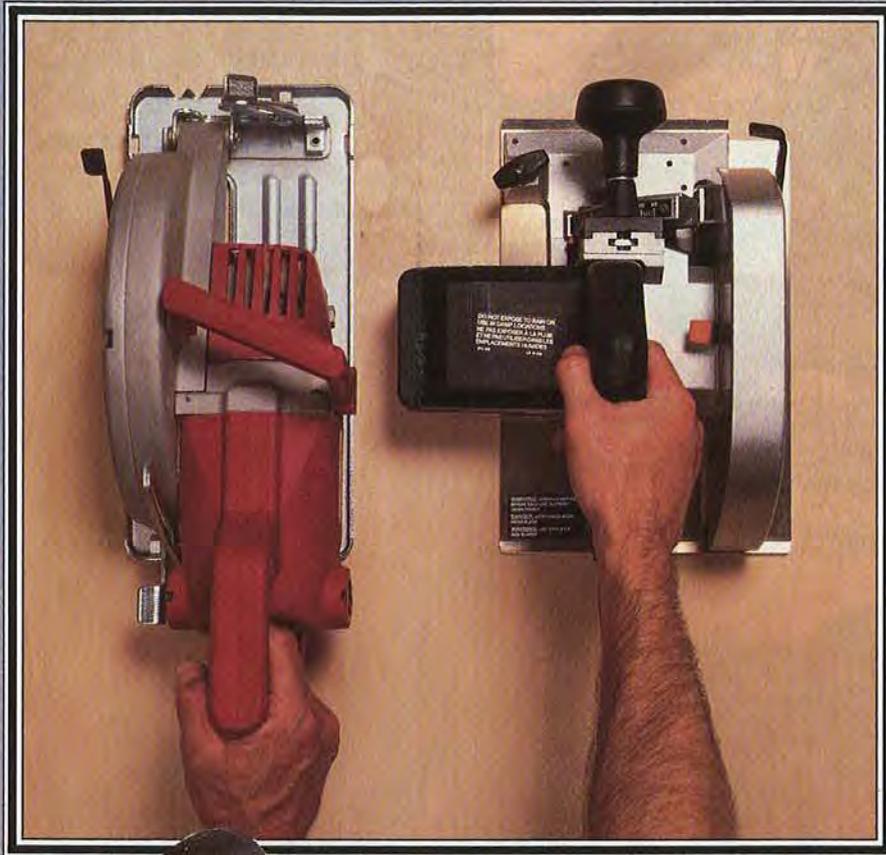
Because it's geared lower, a worm-drive saw's blade turns slower and develops much more torque than its helical-gear brother, making it less likely to bog down during a cut. Also, the thin-bodied worm-drive saw can cut in tighter quarters. Because of the distance

between its blade and handle, you can reach about 6" farther across a cutting surface. Finally, with your hand more directly behind the blade, you maintain greater control over the direction of the blade with a worm-drive than with a helical-gear machine as shown *below*.

On the other hand, worm-drive saws weigh and cost about 50 percent more, and their oil-filled gear casings need occasional fill-ups. The Makita hypoid saw, that has the appearance and low torque of a worm-drive machine, doesn't need this maintenance. In place of worm gears, the hypoid has two cone-shaped gears that turn at right angles to one another. We found it has all the power of worm drive saws while weighing about 2½ pounds less.

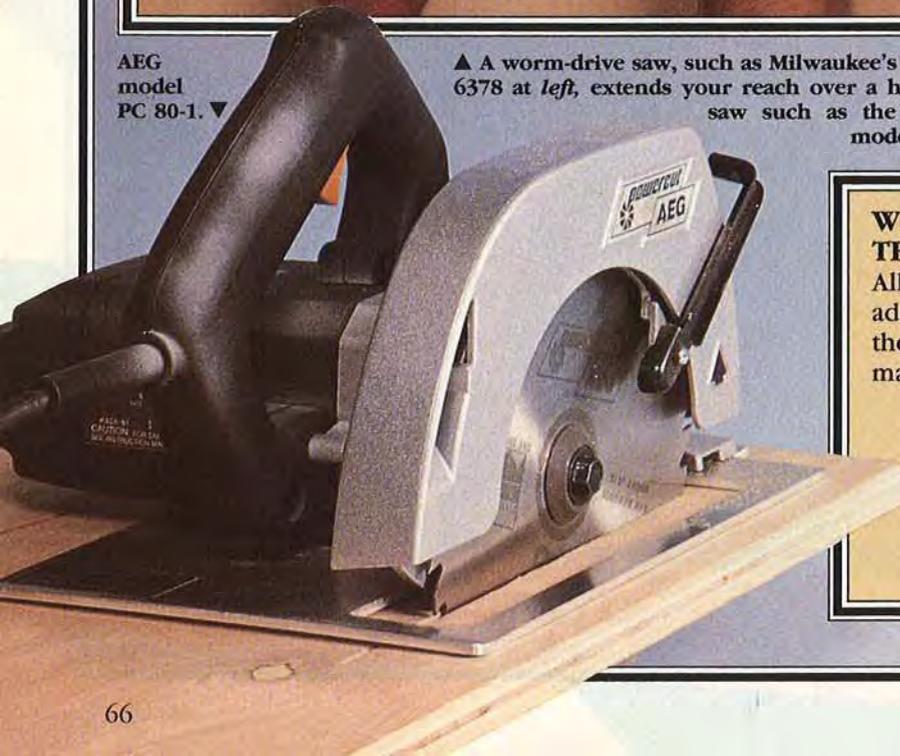
Despite the poundage and price of worm drives, several contractors told us, in passionate terms, they would never use anything else. Our advice: A helical-gear saw will handle nearly any home workshop job you can throw at it. But if you have a major construction project in your future, such as an addition to your house, a worm-drive model may pay off (if you can handle its 16-plus pounds).

Finally, all worm-drive saws are left-handed, meaning the blade is on the left side of the tool from the operator's perspective. Some of the smaller helical gear saws (6" and below) have blades on the left side, but all the larger models are right-handed. Many right-handed woodworkers prefer the left-handed saws because they like to keep an eye on the blade without leaning over the machine. Our recommendation: Try any saw before you buy it and choose the model that's most comfortable for you.



AEG model PC 80-1. ▼

▲ A worm-drive saw, such as Milwaukee's 8¼" model 6378 at left, extends your reach over a helical gear saw such as the AEG 8¼" model PC 80-1.



WE'D RATHER BUY SAFETY THAN BE SORRY

All the saws we tested had safety features that will adequately protect you from electrical shock and the machine's powerfully turning blade. In any machine, you'll find these three main safety features: upper- and lower-blade guards, safety switches, and electrical insulation and/or grounding.

The saw's upper-blade guard covers the top half of the blade and remains fixed. The lower-blade guard protects the bottom



▲ The position of your hand changes from a deep cut to a shallow cut with a pivot-foot saw, such as Black & Decker's model 2680, changing your sense of balance for each cut.



▲ With a drop-foot saw, such as Bosch's model 1651, you can cut at various blade depths without changing your balance. The reason: The vertical alignment of your hand stays the same.

DEPTH ADJUSTMENT: WE LIKE DROP FEET

If you're getting the feeling that there's a lot more to circular saws than just a blade, handle, and motor, then stay with us because you also have two depth-adjustment options: *pivot foot* or *drop foot*. All worm-drive saws, as well as most helical-gear models, have pivot-foot mechanisms that lower the blade in an arching motion. The mechanism consists of a hinge near the front of the machine, and a depth lock near the rear of the tool. Drop feet, available on more-expensive helical gear models, consist of a mechanism near the front of the saw that allows you to lower the blade in a straight, vertical motion.

As shown *below left*, the handle of a drop-foot saw remains in the same vertical plane no matter what the depth of the blade, giving you consistent balance in all cuts. When raising a pivot foot saw blade, as shown *above left*, your hand position changes from being behind the blade to being above it. This change gives you a different sense of balance when you switch from making a shallow cut through plywood for example, to a deep cut through a 2x4. Although worm-drives have pivot feet, your hand remains well-behind the blade in deep and shallow cuts, thus affecting your balance very little.

Drop-foot models have two more advantages. First, when you tilt a drop-foot saw's blade from 90° to

45°, the blade maintains the same sight line, just as the blade does on a tablesaw. Pivot-foot saws have two sight lines, about 1/2" apart, for 90° and 45° cuts; it's anybody's guess where the blade will fall for cuts between those two lines. Secondly, many drop-foot mechanisms have index marks that make easy work of pre-setting a blade's depth.

LET'S SEE WHAT THESE SAWS ARE MADE OF

As with most power tools, there's a lot more to portable circular saws than meets the eye. Before buying, consider the construction materials of both the bearings and foot (the metal plate that the saw rides on).

Bearings, found on the motor armature and arbor of circular saws, protect these components from damaging friction. The bearings will probably wear out before any other mechanical part.

Ball bearings, made of small metal balls within a cage, and roller bearings, consisting of cylindrical rollers, will last a long time while giving friction protection to the armature and arbor. On the other hand, sleeve bearings, found mostly on inexpensive saws, offer little protection. Because they consist of metal cylinders with no moving parts, anything turning within them creates excessive friction.

Finally, a saw needs a good foot to stand on. You can test the foot by picking the saw up in one hand

Continued

half of the blade, but swings out of the way when you start cutting. When you withdraw the saw, a spring quickly brings the guard over the blade. Before you buy any circular saw, test the lower guard by making a compound cut. Do this by setting the blade at a 45° tilt and cutting at an angle to the edge of a piece of stock. The lower guard should retract smoothly. In our tests, all the blade guards retracted satisfactorily, but the Bosch 1651 was the smoothest of the 7 1/4" models. We had to help the Sears model 109250 by pulling on its blade retractor.

Among the 20 saws we looked at, about half had

safety-switch devices that require you to push a button before squeezing the switch. These switches seem like a great idea to us, especially for occasional users of a circular saw. Manufacturers told us they leave safety switches off some of their high-end models because time-conscious professional users don't want to bother with them.

To protect you against electrical shock, saws either have 3-prong grounded cords, double insulation (two layers of insulation around electrical conducting elements), or both. For maximum safety, we suggest you buy a saw with both forms of protection.

PORTABLE CIRCULAR SAWS



◀ Milwaukee model 6365

and the foot in the other. Try to flex the foot in all directions; if it gives a lot, don't buy the saw.

SOME BLADES CHANGE MORE QUICKLY

We like the saws that allow you to change blades by pushing a button to lock the saw's arbor while you use a wrench to loosen the nut covering the blade. To remove the blade on a saw without an arbor lock—a much clumsier task—you first pin the blade against a piece of wood, and then loosen the blade's locking nut with a wrench.

GO CORDLESS ONLY IF YOU HAVE TO

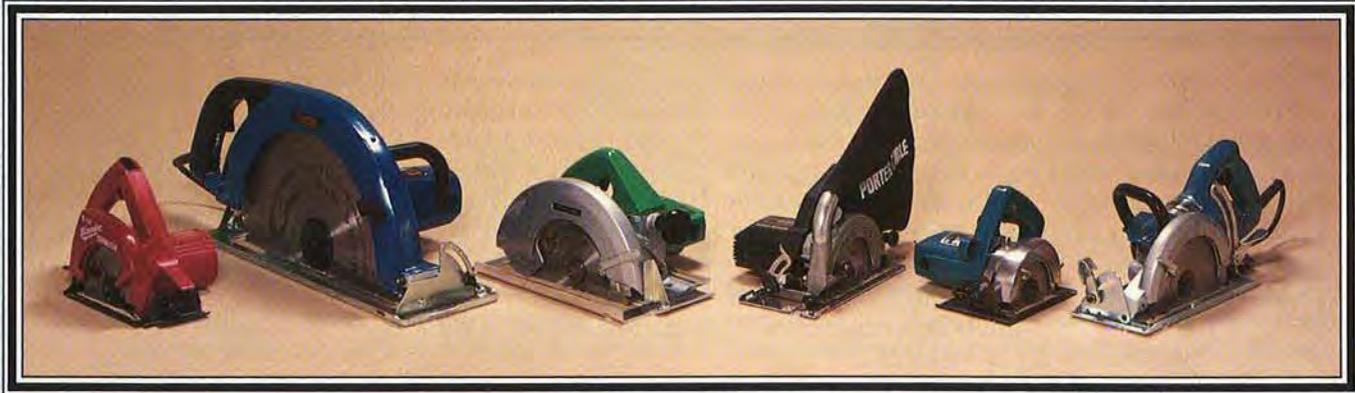
Most cordless tools will perform nearly as well as their AC-powered relatives, but battery-powered circular saws don't come close to matching the power of plug-in models. They're also expensive (about \$250 list). However, you'll find one of these go-anywhere tools useful if you do a lot of work in damp conditions, such as a boat, or at remote locations. 🔧



▲ A look at the Black & Decker model 3028 *above* (\$125 list) and model 2680 *below* (\$180 list) shows what added quality you get for a few extra dollars. The 3028 has a 3/16"-thick stamped-steel shoe and a wingnut-adjusted tilt mechanism.



▲ Compared with its less-expensive counterpart, the 2680 has a sturdy 1/8"-thick extruded-aluminum shoe. Likewise, the heavier tilt mechanism on the 2680 will hold the saw steady, and its tilt lever locks with one quick, easy motion.



▲ Portable circular saws come in a shape, size, and variety to meet nearly any need you can imagine. Shown from the left: Milwaukee's battery-powered 6 1/4" model 6305, Ryobi's 16 1/4" model W-201S, Hitachi's 9 1/4" model PSM-9, Porter-Cable's 6" model 345 Saw Boss, Makita's 4 3/8" model 4200 N, and Makita's 7 1/4" hypoid-drive model 5077 B.

Written by Bill Krier Technical consultant: George Granseth Photographs: Jim Kascoutas

CUTTING FACTS ABOUT PORTABLE CIRCULAR SAWS

MODEL NO.	BLADE SIZE (DIAMETER, INCHES)	MAXIMUM CUTTING DEPTH (INCHES)				MOTOR/ DRIVE ASSEMBLY								SAFETY		CONST. MATERIALS		BEARINGS ⁷		COUNTRY OF ORIGIN	NET WEIGHT (POUNDS)	SUGGESTED LIST PRICE ⁹
		BLADE AT 90°	BLADE AT 45°	FOOT TYPE ¹	AMPS	NO-LOAD SPEED (RPM) ²	DRIVE ³	BRAKE ⁴	ARBOR LOCK	ARBOR SIZE ⁵ (INCHES UNLESS MARKED OTHERWISE)	SERVICEABLE BRUSHES	DOUBLE INSULATED	SAFETY SWITCH	MOTOR HOUSING	FOOT	ARMATURE	ARBOR	BLADE POSITION ⁶				
																			GN			
AEG	PC 80-1*	8 1/4	3	2 1/4	D	20	6,400	HG	N	Y	%	N	Y	N	GN	A	B	B	RH	WEST GERMANY	12.5	234
BLACK & DECKER	3051*	7 1/4	2 1/32	1 1/16	P	13.0	4,300	WD	N	Y	D	Y	N	N	CA	S	B	B	LH	ITALY	16.5	246
	3028	7 1/4	2 7/16	1 3/8	P	12.0	5,800	HG	N	N	%	N	N	N	P	S	B	R-R	RH	USA	10.7	125
	2680	7 1/4	2 1/4	1 25/32	P	13.0	5,800	HG	N	Y	%	Y	N	N	GN	A	B	B-R	RH	USA	11.2	180
BOSCH	1651	7 1/4	2 7/16	1 15/16	D	13.0	5,500	HG	N	N	%	Y	Y	N	GN	A	B	B-R	RH	USA	12.9	179
	1654	7 1/4	2 7/16	2	P	13.0	5,800	HG	N	Y	%	Y	Y	N	GN	A	B	B-R	RH	USA	10.9	179
HITACHI	PSM-9	9 1/4	3 3/8	2 1/2	P	14.6	5,000	HG	N	Y	%	Y	Y	Y	P	A	B	B	RH	JAPAN	15.4	383
MAKITA	4200N	4 3/8	1 1/4	7/8	P	7.5	11,000	HG	N	N	20mm	Y	Y	Y	P	S	B	B	LH	JAPAN	6.2	210
	5007NBA*	7 1/4	2 3/8	1 3/4	P	13.0	5,800	HG	E	Y	%	Y	Y	N	P	A	B	B	RH	JAPAN	11.0	219
	5077B	7 1/4	2 3/8	1 3/8	P	13.0	4,300	HY	E	Y	%	Y	Y	N	P	S	B	B	LH	JAPAN	13.9	254
	5201NA	10 1/4	3 3/4	2 1/2	P	12.0	3,700	HG	E	N	%	Y	N	Y	CA	S	B	B	RH	JAPAN	18.3	509
METABO	CS725	7 1/4	2 7/16	1 29/32	D	13.0	5,800	HG	N	N	%	Y	Y	N	P	A	B	B-R	RH	USA	11.5	200
MILWAUKEE	6365*	7 1/4	2 3/8	1 29/32	D	13.0	5,800	HG	N	Y	%	Y	N	N	GN	A	B	B-R	RH	USA	11.5	189
	6460	10 1/4	3 15/16	2 7/8	D	15.0	5,200	HG	N	N	3/4	Y	N	N	GN	S	B	B-R	RH	USA	19.5	395
	6378*	8 1/4	2 3/8	2 1/4	P	15.0	4,400	WD	N	N	D	Y	N	N	GN	S	B	B-R	LH	USA	17.2	296
	6305	6 1/4	2 3/16	1 7/16	P	B	3,400	HG	N	N	20mm	N	N	Y	P	A	S	B-S	RH	JAPAN	8.0	284
PORTER-CABLE	345	6	1 15/16	1 1/16	P	9.0	8,000	HG	N	Y	1/2	Y	Y	N	GN	S	B	B-R	LH	USA	8.0	155
	315-1*	7 1/4	2 7/16	1 29/32	D	13.0	5,800	HG	N	N	%	N	Y	N	GP	A	B	B-	RH	USA	11.5	178
	314	4 1/2	1 5/16	1 1/16	P	4.5	4,500	WD	N	N	3/8	Y	N	N	CA	S	B	B	RH	USA	7.0	185
RYOBI	W-620	7 1/4	2 7/16	1 29/32	D	13.0	5,500	HG	N	Y	%	Y	Y	N	P	S	B	B+S	RH	JAPAN	11.0	187
	W-201S**	16 1/4	6 7/16	4 3/8	D	12.0	2,500	HG	E	Y	1	Y	N	N	P	S	B	B	RH	JAPAN	30.8	602
SEARS	109250	7 1/4	2 1/4	1 3/4	P	12.0	5,000	HG	N	Y	%	N	Y	Y	TP	S	B	B-R	RH	USA	13.8	75
SKIL	77*	7 1/4	2 3/8	1 15/16	P	13.0	4,400	WD	N	Y	D	Y	N	N	CA	S	B	B	LH	USA	16.3	259
	5656	7 1/4	2 7/16	1 3/8	P	13.0	5,400	HG	N	Y	%	Y	Y	N	GN	S	B	B-R	RH	USA	11.7	172
	5510	5 1/2	1 3/4	1 1/16	P	6.5	4,000	HG	N	N	1/2	Y	Y	N	GN	S	B	B-R	LH	USA	6.5	137
	5250	7 1/4	2 7/16	1 15/16	P	10.0	4,600	HG	N	N	%	Y	Y	Y	GN	S	B-S	S-S	RH	USA	11.0	69

(*) Similar machines available in both 7 1/4" and 8 1/4" sizes

(**) Makita makes a similar machine

(Y) Yes; (N) No

1. (D) Drop foot; (P) Pivot Foot

2. No-load speed determined when machine turns free (not cutting)

3. (HG) Helical gear; (WD) Worm drive; (HY) Hypoid

4. (N) None; (E) Electric brake

5. (D) % arbor with diamond knock-out

6. (A) Aluminum

(CA) Cast aluminum

(GN) Glass-filled nylon

(GP) Glass-filled polyester

(P) Polycarbonate plastic

(S) Steel

(TP) Thermo-set plastic

7. (B) Ball bearing

(R) Roller bearing

(S) Sleeve bearing

(RH) Righthand

(LH) Lefthand

9. Tools often discounted

10-30% below list

MANUFACTURER'S LISTING:

AEG Power Tool Corp.
Three Shaw's Cove
New London, CT 06320
800/243-0870

Black & Decker
P.O. Box 857
Hampstead, MD 21074
301/239-5300

Robert Bosch Power Tool Corp.
3701 Neuse Blvd.
New Bern, NC 28560
800/334-4151

Hitachi Power Tools U.S.A. Ltd.
4487-E Park Drive
Norcross, GA 30093
404/925-1774

Makita U.S.A. Inc.
12950 E. Alondra Blvd.
Cerritos, CA 90701
714/522-8088

Metabo Corporation.
1231 Wilson Drive
Westchester, PA 19380
215/436-5900

Milwaukee Electric
Tool Corporation
13135 West Lisbon Road
Brookfield, WI 53005
414/781-3600

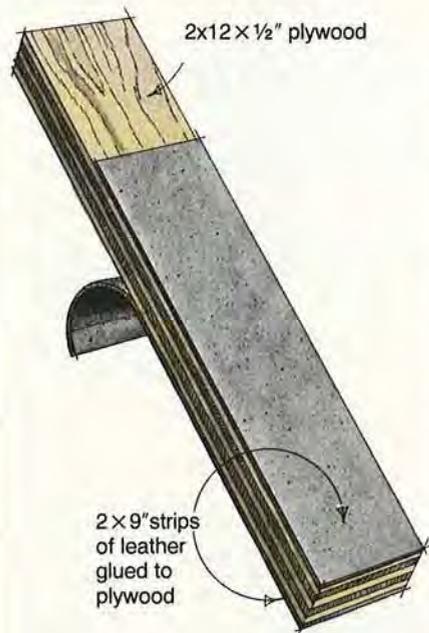
Porter-Cable Corp.
Highway 45 at Young's Crossing
Jackson, TN 38305
901/668-8600

Ryobi America Corp.
1158 Tower Lane
Bensenville, IL 60106
312/250-7999

Sears, Roebuck & Co.
For more information,
contact your nearest store.
Skil Corporation
4801 West Peterson Ave.
Chicago, IL 60646
312/286-7330

PUT A SUPER FINE EDGE ON YOUR CARVING TOOLS

Nothing raises the frustration level of a beginning carver more than using dull tools, which make carving dangerous as well as difficult. Carving, however, can be safe and enjoyable if you know how to use the one tool that carvers always keep at arms length—the leather strop.



You can buy a variety of strops, in prices from \$15 to \$40, but after talking with some prominent carvers, we're convinced that all you need is an easy-to-make two-sided leather strop and two different pastes. You can buy coarse (emery), and medium (tripoli) pastes from the source in the Buying Guide at the end of this article.

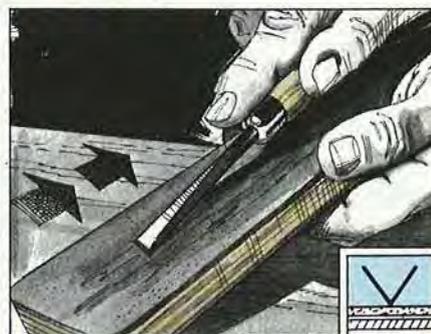
To make a strop like the one shown above, cut a 2x12" piece of 1/2" plywood, then glue 2x9" strips of belt leather (available from the Buying Guide source) to both sides of the plywood. Attach the leather strips to the same end of the plywood stick to leave a 3" handle at the other end.



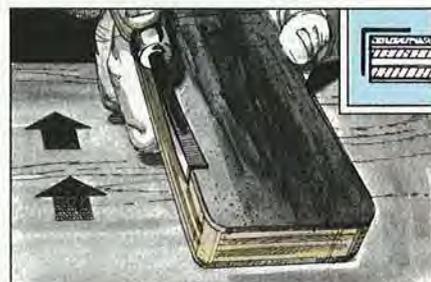
2 Now, apply coarse paste to one of the leather strips, and medium paste to the other strip. To sharpen a bench knife, hold the strop (coarse side up) in one hand, and the knife, with its sharp edge facing away from you, in your other hand. Set the blade onto the far end of the strop, with the back edge of the tool just off the leather surface as shown above. Press down on the knife and pull it toward you. Now, stroke the opposite side of the blade back down the strop and repeat this step 10-12 times. Then, repeat this process on the medium compound.



3 To sharpen a gouge, hold one end of the tool's edge against the coarse surface of the strop as shown above. As you pull the gouge toward you, roll it so all of the cutting edge makes contact with the strop during one stroke. Repeat this stroke 10-12 times. Always pull the gouge toward you—pushing the sharp edge into the leather will cut the strop. Then, flip over the strop and repeat this process on its medium side.



4 Sharpen a V-tool by first stroking one side of the V, then the other on the coarse compound. Next, lay the point of the V on the strop as shown above, and pull the tool toward you 5-6 times. Repeat this process on the medium compound.



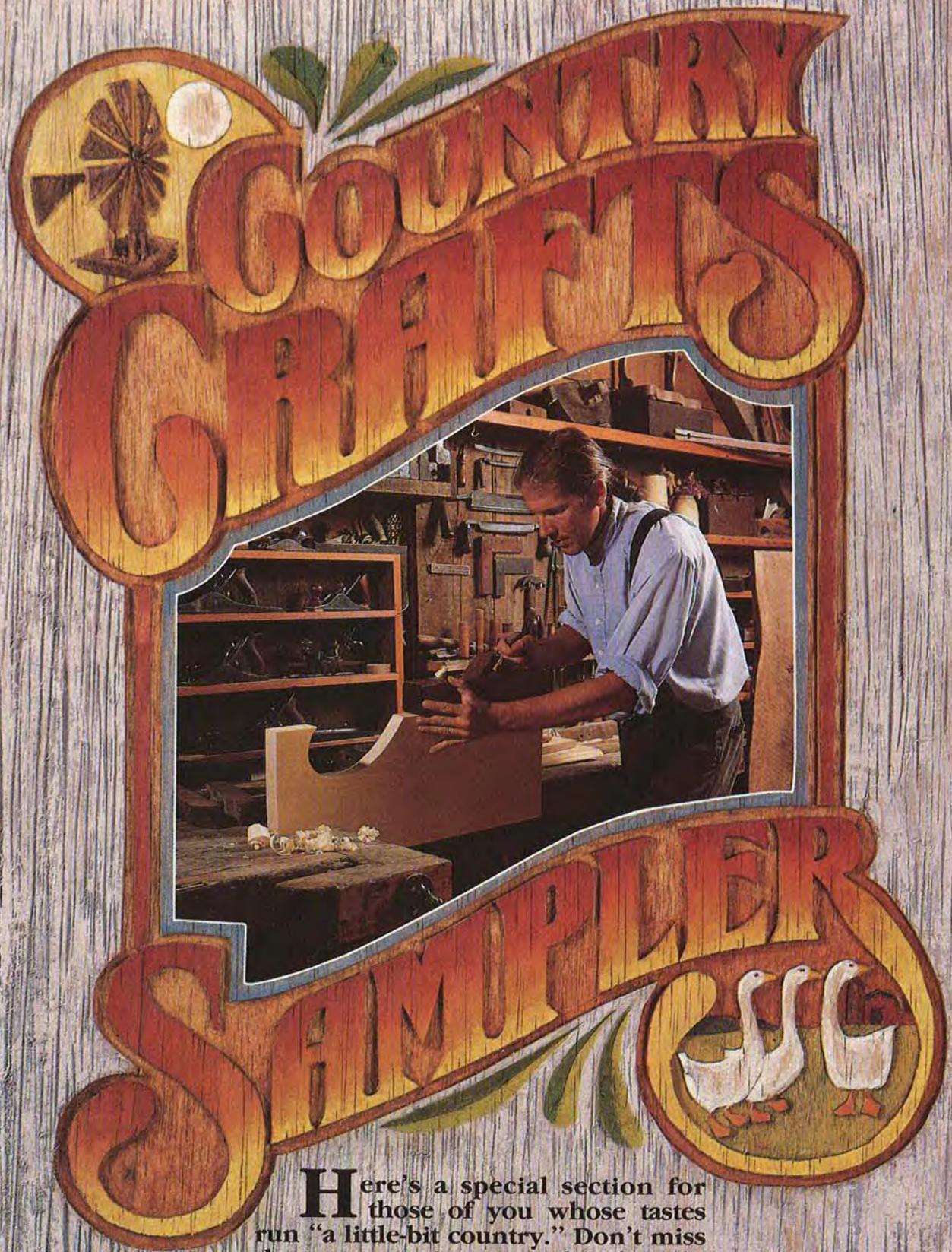
5 Stropping will form a microscopic burr on the unbeveled (or inside) edge of both the gouge and V-tool. Remove the burr by placing the unbeveled edge of the tool along the corner of the strop as shown above. Then, pull the tool toward you 3 times and repeat this process on the other side of the strop.

BUYING GUIDE

• **Belt leather.** 36x2" strip, item No. 4534, \$7.95 ppd. from Tandy Leather Co., PO Box 2934, Dept. WO289, Fort Worth, TX 76101.

• **Emery compound.** Item No. 07M03, \$11.50 ppd., and tripoli, item No. 01T41, \$8.40 ppd., from Woodcraft, 41 Atlantic Ave., PO Box 4000, Woburn, MA 01888.

Illustrations: Jim Stevenson



Here's a special section for those of you whose tastes run "a little-bit country." Don't miss the opportunity to craft a bench, construct a cabinet, toy with our country-cousin trucks, or cook up some gifts with our recipe box.



ENJOY THIS PROJECT
INDOORS OR OUT





A COMFY COUNTRY BENCH



An investment of less than \$30 in materials and a couple of evenings in the workshop will yield a high return when building this simple, but pleasing bench. Use it indoors for informal seating or place it at garden side this summer for a comfortable seat to view the fruits of your labor.

Note: We hand-picked spruce 2×12s for the ends and 2×8s for the seat and back. Pine or fir will also work well. If you have trouble locating straight and uncupped stock, edge-join narrower pieces to width. Use epoxy or resorcinol for gluing outdoor projects.

BUILD THE BENCH ENDS

1 Cut the end pieces (A) to 28¾" length from 2×12 stock. Draw a 1" grid measuring 5×10" on heavy paper or thin cardboard. Using the Heart Grid Half Pattern for reference, lay out the pattern for half a heart. Cut the template to shape.

2 Position the template, and trace the heart outline 3" from the top of each end piece where located on the End-View Drawing. Cut the outlines to shape on the bandsaw or with a jigsaw, and drum-sand to remove the saw marks.

3 To join the end pieces, start by clamping each pair of 2×12s (A) together edge to edge, with the top and bottom edges flush. Now, using the dimensions on the Exploded-View Drawing, mark the three dowel hole locations on one face. Remove the clamps. Using a square, transfer the lines to the inside edge of each end piece.

Continued

3/4" hole
1 1/2" deep

3/4" dowel 3 3/16" long

Chamfer ends of dowels

45"

3/4" holes

1 1/2"

3/8" gap

Sand a slight round-over on all edges

1/2" round-over on top front edge

28 3/4"

11 1/4"

3/4" hole 1 1/2" deep

3/4" dowel 3 3/8" long

12"

2 1/2"

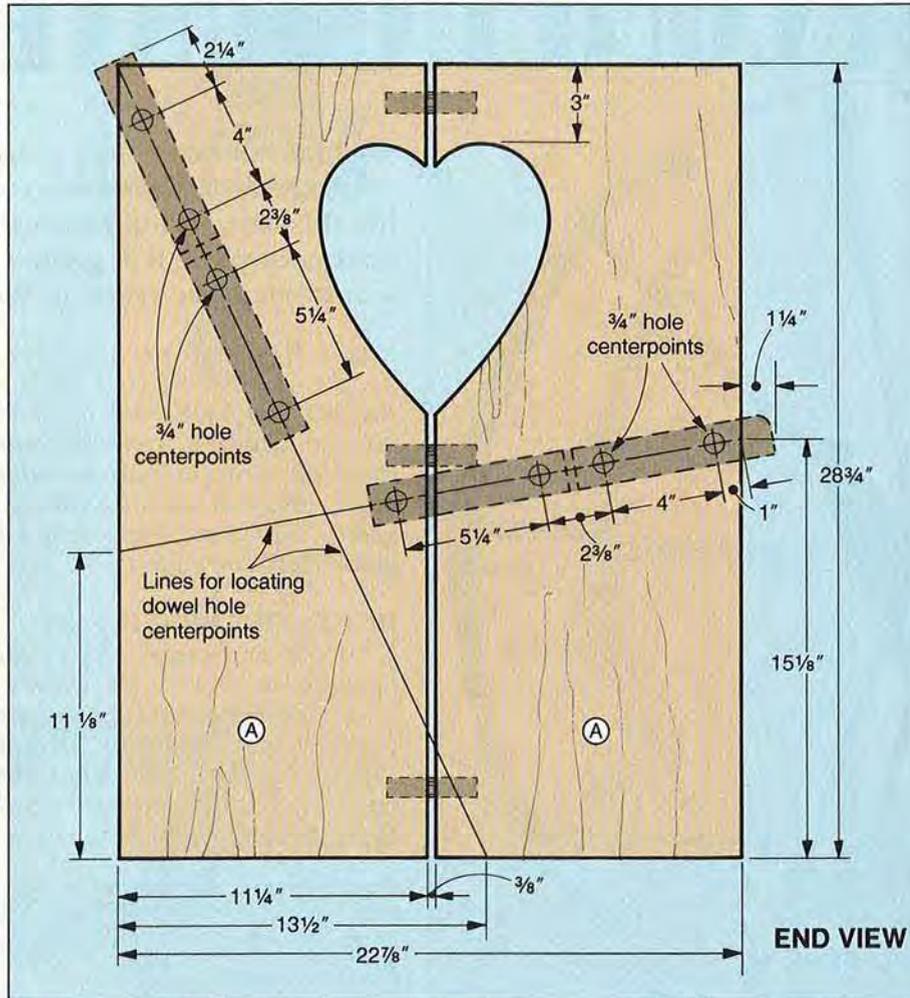
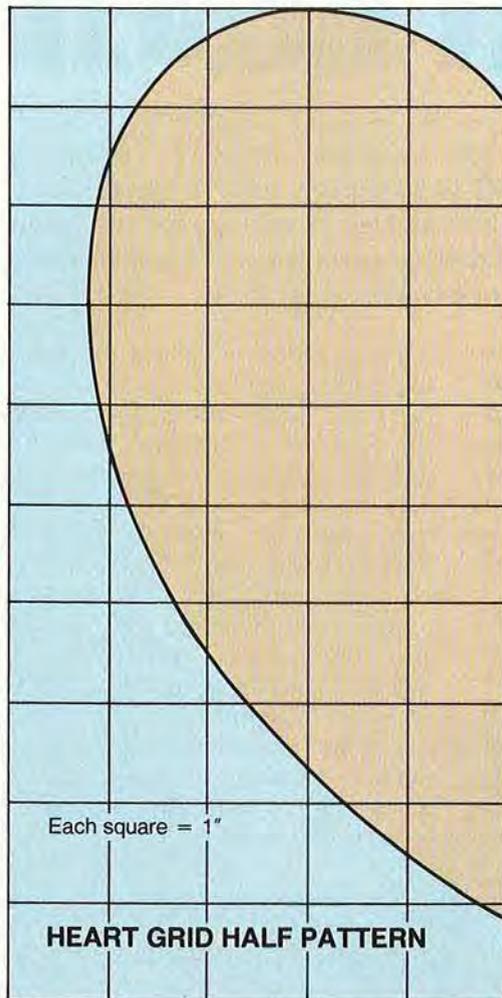
Bill of Materials

Part	Finished Size			Material	Qty.
	T	W	L		
A	1 1/2"	11 1/4"	28 3/4"	spruce	4
B	1 1/2"	7 1/4"	45"	spruce	2
C	1 1/2"	7 1/4"	45"	spruce	2

Supplies: 2—36" lengths of 3/4" dowel stock. For placement outdoors, use an exterior glue such as slow-set epoxy or resorcinol, and exterior house stain or exterior primer and paint. For use indoors, use regular woodworker's glue, stain, and polyurethane.



A COMFY COUNTRY BENCH



4 Check that you're square to the surface, and drill $\frac{3}{4}$ " holes $1\frac{1}{2}$ " deep centered from edge to edge where marked. (We used a portable electric drill.)

5 From $\frac{3}{4}$ " dowel stock, set a stop, and cut six pieces $3\frac{3}{8}$ " long. Sand a chamfer on each end. (We formed our chamfers on a belt sander.)

6 Next, cut four $\frac{3}{8}$ "-thick scrap spacers. Glue, dowel, and clamp both bench ends together, placing the $\frac{3}{8}$ " spacers between the end pieces for a consistent $\frac{3}{8}$ " gap as shown *above right*. Save the spacers—you'll use them when joining the seat and back pieces later.

7 Sand a slight round-over on all edges of each bench end.

8 From 2×8 " stock, cut the two seat pieces (B) and backrest pieces (C) to length.

9 Select one seat piece for the front, and rout a $\frac{1}{2}$ " round-over on the top front edge.

MARK AND DRILL ALL THE DOWEL HOLES

1 Mark a pair of intersecting lines for locating the dowel-hole center points on the *outside face* of each bench end, using the dimensions on the End View Drawing.

2 Locate and mark the eight dowel-hole centerpoints on the lines on each bench end.

3 Bore $\frac{3}{4}$ " holes through the bench ends at the marked centerpoints, backing the stock with scrap to prevent chip-out. (We clamped a piece of 2×4 on the inside face before drilling the first holes. Then, we repositioned the 2×4 and drilled the other four holes.)

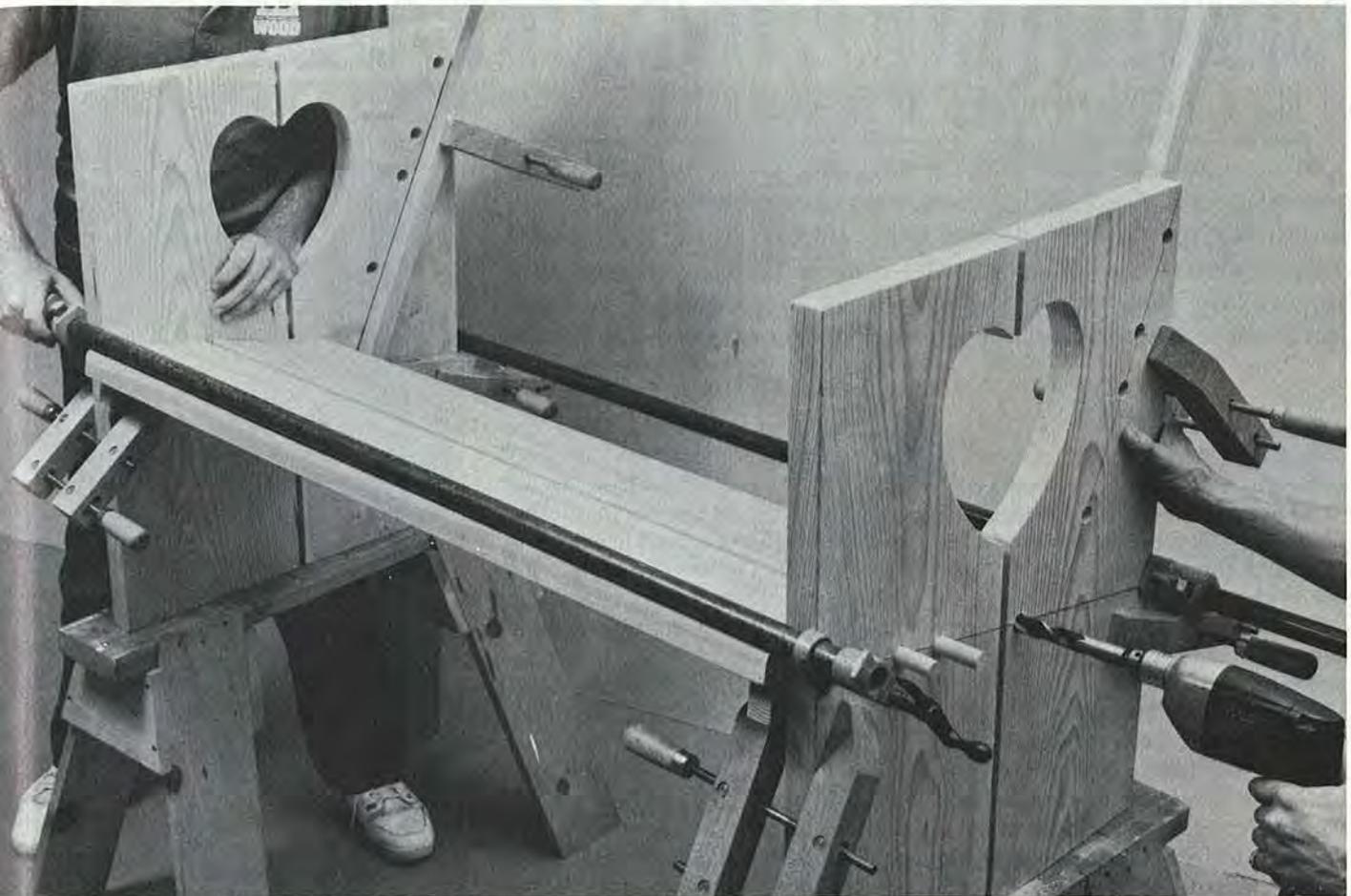
ASSEMBLE THE PIECES

1 From $\frac{3}{4}$ "-diameter dowel stock, set a stop, and cut 16 dowels $3\frac{3}{16}$ " long. Sand a $\frac{3}{16}$ " chamfer on both ends of each dowel.

2 Cut four 1×2 scraps to 26" long. Clamp two strips to the inside face of each bench end where shown on the drawing at *right*. The strips help center the seat and backrest pieces over the $\frac{3}{4}$ " holes for drilling in the next step. (We positioned a piece of scrap 2×8 stock on each strip to check that the holes would center in the end of the stock.)

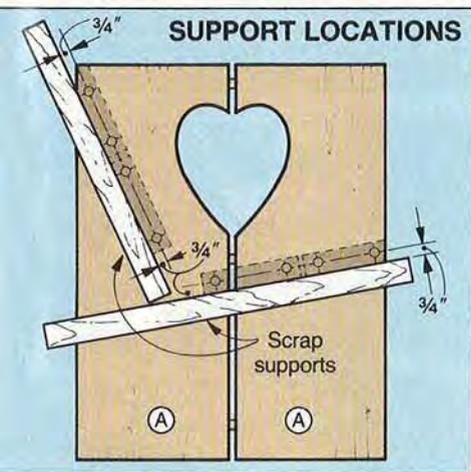
3 With a helper, position the seat pieces where located on the End View Drawing. Slip the $\frac{3}{8}$ " spacers between the pieces for a consistent gap. Then, clamp the seat pieces firmly between the bench ends, as shown in the photo *above right*.





Position the two seat and two back pieces on the support strips, and clamp them in place between the end pieces. Then,

use the previously drilled $\frac{3}{4}$ " holes in the bench ends as guides, and drill dowel holes $1\frac{1}{2}$ " deep into the seat pieces.



4 Chuck a $\frac{3}{4}$ " bit into a portable electric drill. Using the previously drilled holes in the end sections as guides, drill a pair of $1\frac{1}{2}$ "-deep holes squarely into each seat piece

as shown in the photo *above*. As soon as you've drilled the first hole, insert one of the $3\frac{3}{16}$ "-long dowels into the hole to help steady the seat piece for drilling the next hole. Do not insert the dowel more than $\frac{1}{2}$ " into the seat piece; you may have trouble removing it if you do.

5 Repeat the procedure to drill the $\frac{3}{4}$ " holes in both ends of the backrest pieces.

6 Remove one of the $3\frac{3}{16}$ "-long dowels. With a small brush, coat the inside of the hole with glue. To prevent marring the chamfered dowel end, use a rubber-tipped mallet to slowly drive the dowel into the hole. Drive the dowel until just the chamfered end protrudes. Be careful not to drive the dowels too far—they're almost impossible to back out. Immediately wipe off

any excess glue with a damp cloth. Repeat for each remaining dowel. Let the glue dry and then remove the clamps.

SAND, PAINT, AND ENJOY

1 Sand the entire bench, sanding a slight round-over on all edges.

2 To keep the wood grain visible, finish the bench with an exterior house stain for use outdoors. For use indoors, apply regular stain and a clear finish such as polyurethane. If you wish to paint the bench and set it outside, apply an exterior primer followed by two coats of exterior paint. Use an interior primer and paint for use indoors. 🌳

Project Design: James R. Downing
Photographs: Bob Calmer; Hopkins Associates

Illustrations: Kim Downing; Mike Henry



CHARMING COUNTRY CABINET

BUILD THIS PROJECT FOR UNDER \$20

Country cabinets once held everything from medicinals to canned goods. Like our cabinet, they were sturdy and useful. Enhancing the country image, we've decorated the door panel with a pattern of a wheat shock—ever-so present at threshing time—using our stain-resist technique on page 46. We hope you'll agree our cabinet's a winner by a country mile.

LET'S START WITH THE CARCASS

1 Cut the two sides (A), shelf (B), lower shelf and cleat (C), top (D), towel bar (E), and two adjustable shelves (F) to the sizes listed in the Bill of Materials.

2 Cut or rout a $\frac{3}{8}$ " rabbet $\frac{1}{4}$ " deep along the back inside edge of each side piece (A).

3 Using the dimensions on the Exploded-View Drawing, mark the shelf-support hole centerpoints on the inside face of the side pieces. Clamp a fence to your drill press table, and drill $\frac{1}{4}$ " holes $\frac{3}{8}$ " deep in the side pieces. (We set the fence 1" from the drill-bit center for drilling the back rows in both pieces, and $1\frac{3}{4}$ " from the drill-bit center when drilling the front rows.)

4 Mark a curved notch on the front bottom corner of each side piece. Cut the curved notches to shape.

5 Glue and clamp the shelf (B) and the lower shelf and cleat (C) between the sides where shown on the drawing; check for square.

6 With the assembly still clamped together, mark screw-hole centerpoints on each side piece where shown on the Exploded-View Drawing. Drill and counterbore the holes (see the Screw-Hole Detail for hole sizes). Drive the screws, plug the counterbores, and sand the plugs flush. (We cut our plugs from scrap pine stock with a $\frac{3}{8}$ " plug cutter.) Remove the clamps.

7 Cut the plywood back (G) to size. Glue and nail it into the rabbet. (Use the back to pull the carcass into square if necessary.)

8 Rout $\frac{1}{4}$ " round-overs along the front edges of the towel bar (E). Referring to the Screw-Hole Detail for hole sizes, drill holes in the bar and the top (D). Then, fasten both to the cabinet. Plug the holes.

9 Drill the mounting holes through the cleat (C) for hanging the cabinet to the wall.

NOW, CONSTRUCT THE RAISED-PANEL DOOR

1 Cut the door stiles (H) and rails (I) to size. Cut a $\frac{1}{4}$ " groove $\frac{3}{8}$ " deep centered along the inside edge of both stiles and rails. Using a push block for support as shown in the photo at right, cut the same-sized groove in the end of each rail.

2 Edge-join two or three pieces of $\frac{1}{2}$ " stock to form the door panel (J). (We used drawer-side material; it measures $\frac{1}{2}$ " thick.) Later, sand smooth, and cut the door panel to size. (We cut ours $\frac{1}{16}$ " undersize to allow for wood movement of the assembled door later.)

3 As shown on the drawing far right, tilt the blade 10° from center, position the fence, and cut all four edges of the panel. Sand the shoulders square, and then sand the beveled areas smooth to remove the saw marks (we used a block sander). Finish-sand the panel.

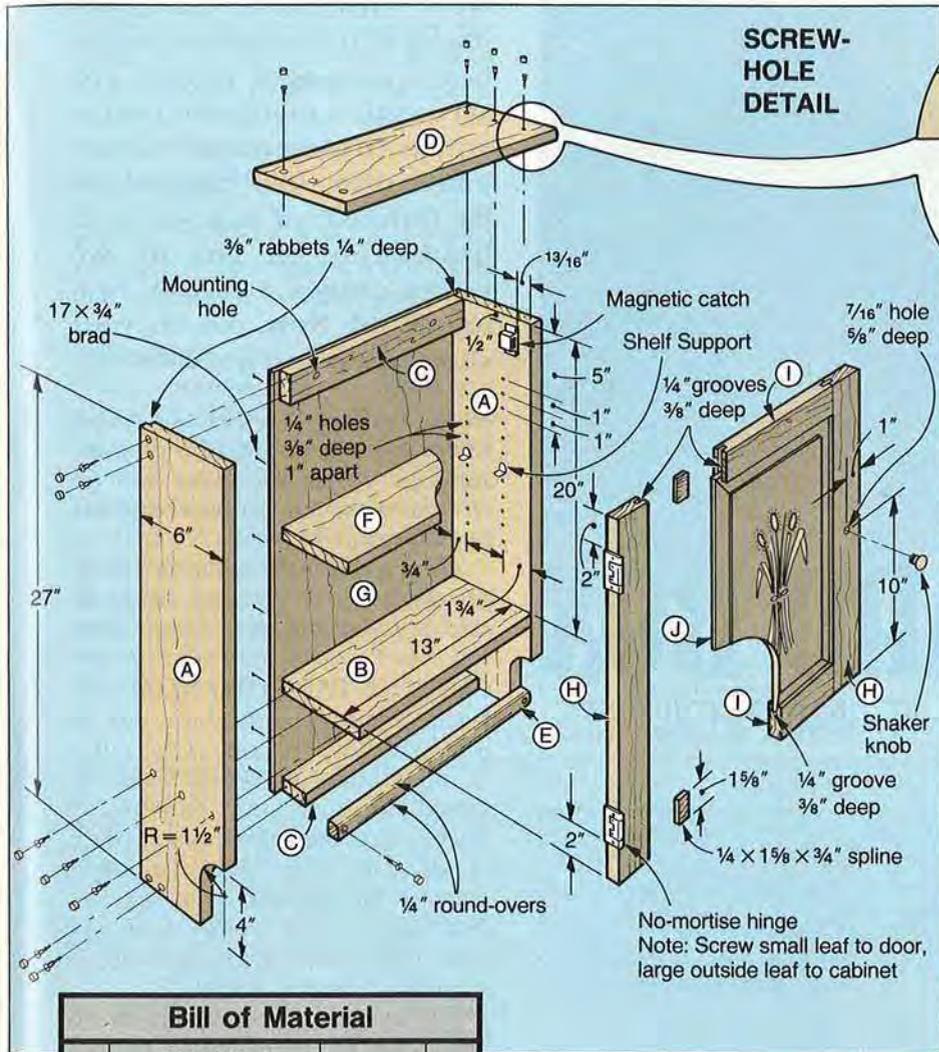
4 Using our stain-resist technique starting on page 46 and our wheat-shock pattern on page 84, form the pattern on the panel front. Stain the panel. Staining the door may cause unsightly white lines should the panel shrink inside the door frame later.



Using a push block for support, cut the grooves in both ends of each rail.



Print this article



5 Cut four pine splines. Dry-clamp the door parts together, checking for tight-fitting joints and a square assembly. Trim the splines if necessary; then glue and clamp the door together. Let the panel float in the stile and rail grooves.

6 The door should be 1/8" shorter in length and width than the opening; trim if necessary. Drill the hole for the door knob where shown on the Exploded-View Drawing, and glue the knob in place.

YOU'VE JUST ABOUT GOT IT MADE

1 Finish-sand the cabinet carcass, cabinet back, door frame, and adjustable shelves. Stain and finish.

2 Mount the hinges to the door (see the Exploded-View Drawing), and then mount the door to the cabinet. Attach the magnetic catch to the carcass and the strike plate to the door. Hang the cabinet on the wall and check for level. Install the shelf supports and shelves.

BUYING GUIDE

• **Hardware kit.** 7/8" beech knob, catalog no. B1674; magnetic catch and strike plate, catalog no. D2107; eight shelf supports, catalog no. D9157; one pair of no-mortise hinges, catalog no. D3932. \$8.80 ppd. from The Woodworkers' Store, 21801 Industrial Blvd, Rogers, MN 55374, or call 612/428-2199. 🌲

Project Design: James R. Downing;

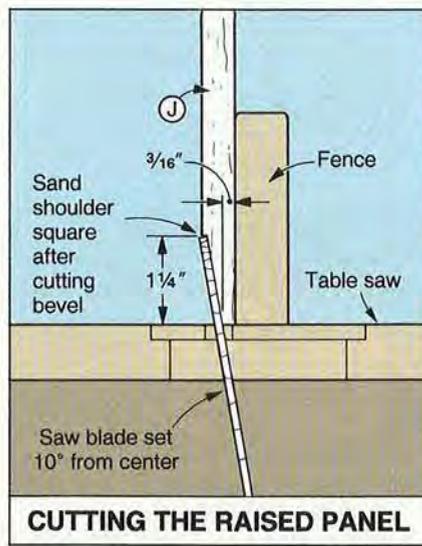
Mary Morel Briggs

Photographs: Jim Kascoutas

Illustrations: Kim Downing; Bill Zaun

Bill of Material					
Part	Finished Size*			Material	Qty.
	T	W	L		
CABINET					
A	3/4"	6"	27"	pine	2
B	3/4"	5 3/4"	13"	pine	1
C	3/4"	2"	13"	pine	2
D	3/4"	6 1/2"	15 1/2"	pine	1
E	3/4"	3/4"	14 1/2"	pine	1
F	3/4"	4 3/4"	12 7/8"	pine	2
G	1/4"	13 3/4"	27"	birch plywood	1
DOOR					
H	3/4"	2"	19 7/8"	pine	2
I	3/4"	2"	8 7/8"	pine	2
J	1/2"	9 9/16"	16 9/16"	pine	1

Supplies: #8 x 1 1/4" flathead wood screws, 17 x 3/4" brads, stain.





RECIPE CARD BOX

WITH ALL THE RIGHT INGREDIENTS

We hope you'll agree that we've mixed in all the ingredients to make our oak recipe box a successful project. For strength and good looks, we've incorporated finger joints using our finger-joint jig featured on page 48. And, bandsawing the box in two pieces creates a stylish contoured lid. Now, put on your shop apron and get cookin'!

Note: For ease in cutting finger joints for this and future projects, see page 48 for the plans and instructions on how to build and use our box-joint jig.

Also, you'll need some $\frac{1}{4}$ " stock for this project. You can either resaw or plane thicker stock to size.

CUT THE PARTS TO SIZE

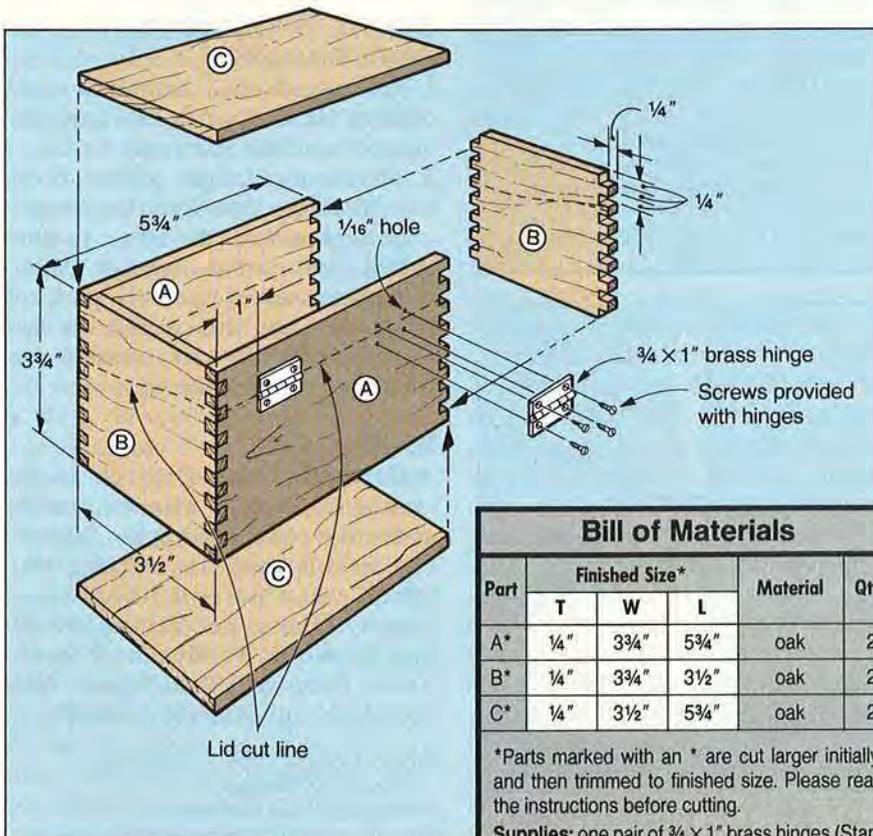
1 Cut a piece of $\frac{1}{4}$ "-thick oak to $3\frac{3}{4}$ " wide by 35" long. (We cut a $\frac{3}{4}$ "-thick board to $3\frac{3}{4} \times 20$ " and resawed the board into two pieces. Then, we planed down each piece to $\frac{1}{4}$ " thick. This yielded enough material for one box.) Cut the box front and back (A) to $5\frac{3}{4}$ " long and sides (B) to $3\frac{1}{2}$ " long (we used a stop for consistent lengths).

2 Rip the remaining oak piece to $3\frac{1}{2}$ " wide for the top and bottom (C). Next, cut the top and bottom to $5\frac{3}{4}$ " in length.

FINGER-JOINT THE PIECES

1 To finger-joint both front and back pieces simultaneously, tape the pieces together face to face with double-faced tape. Check that the edges and ends are flush. Repeat the taping procedure with the side pieces.

2 Mount a $\frac{1}{4}$ " dado blade to your tablesaw (we used a stackable blade). Raise the dado blade $\frac{1}{4}$ " above the surface of your saw table. Now, elevate the blade about $\frac{1}{32}$ " more. (We found it is best to have the fingers a bit long, and sand them flush with the box sides after final assembly.)



Bill of Materials

Part	Finished Size*			Material	Qty.
	T	W	L		
A*	$\frac{1}{4}$ "	$3\frac{3}{4}$ "	$5\frac{3}{4}$ "	oak	2
B*	$\frac{1}{4}$ "	$3\frac{3}{4}$ "	$3\frac{1}{2}$ "	oak	2
C*	$\frac{1}{4}$ "	$3\frac{1}{2}$ "	$5\frac{3}{4}$ "	oak	2

*Parts marked with an * are cut larger initially, and then trimmed to finished size. Please read the instructions before cutting.

Supplies: one pair of $\frac{3}{4} \times 1$ " brass hinges (Stanley part no. CD5302—US3, mounting screws supplied with hinges), double-faced tape, spray-on adhesive, carbon paper, stain, finish.

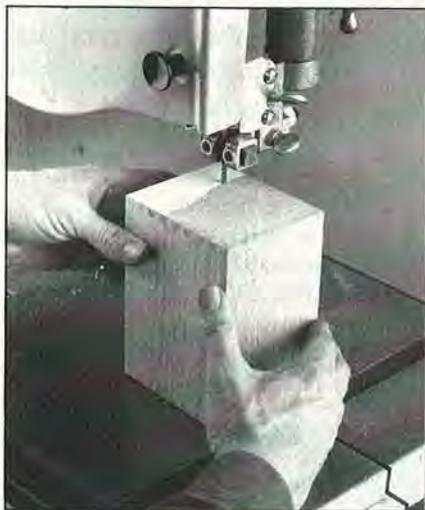
3 Fasten the box-joint jig to your miter gauge. Follow the drawings *below* to cut the notches in the front, back, and side pieces. After notching the ends of each piece, separate the pieces, remove the tape, and sand smooth. (We used a thin, wedge-shaped piece of wood to pry apart the taped-together pieces. We tried prying the first two pieces apart with a screwdriver and dented the wood slightly.)

ASSEMBLE THE BOX

1 Glue and clamp the notched box pieces (A, B) together, checking for square. (We placed masking tape on the inside next to the finger joints to catch the excess glue. We applied the glue to the finger joints with a small brush.)

2 Later, remove the clamps and sand the oak box smooth. Sand the top and bottom edges of the box flat if necessary.

3 Glue and clamp the top and bottom pieces (C) to the box assembly. Later, remove the clamps and sand the box smooth.



Adhere the lid pattern to one end of the box with spray-on adhesive. Cut the box in two on the bandsaw.

CUT THE BOX IN TWO, AND YOU'RE ALMOST THROUGH

1 Using carbon paper, transfer the pattern *below* to a piece of paper. Cut the pattern to shape. Apply spray-on adhesive to the back of the pattern, and stick the pattern to the box where shown at *left*.

2 Mount a $\frac{1}{4}$ " blade to your bandsaw; check the blade against the table for square. Saw along the marked outline to cut the box in two as shown in the photo at *left*. Remove the paper pattern.

3 Clamp the lid to the box body with all the surfaces flush. Drill the pilot holes and attach a pair of hinges to the back of the box where shown on the Exploded-View Drawing. The screws will pass through to the inside of the box. Snip or file off the screw points, and then sand them flush.

4 Sand the box. Mask the hinges, and apply stain and finish.

Project Design: James R. Downing. Photographs: Hopkins Associates; Bob Calmer. Illustrations: Kim Downing; Bill Zaun

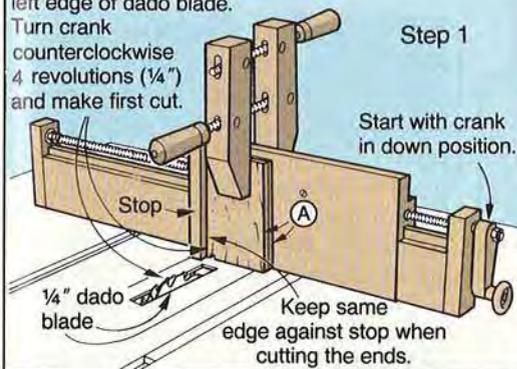
FINGER-JOINTING THE FRONT AND BACK PIECES

Align inside edge of stop flush with left edge of dado blade.

Turn crank counterclockwise 4 revolutions ($\frac{1}{4}$ ") and make first cut.

Step 1

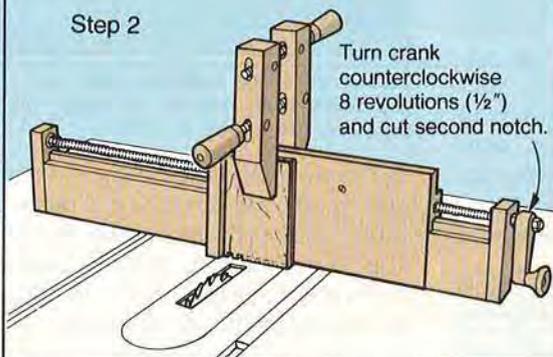
Start with crank in down position.



Keep same edge against stop when cutting the ends.

Step 2

Turn crank counterclockwise 8 revolutions ($\frac{1}{2}$ ") and cut second notch.

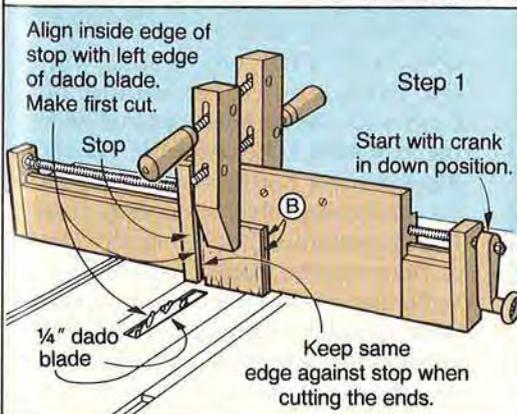


FINGER-JOINTING THE SIDE PIECES

Align inside edge of stop with left edge of dado blade. Make first cut.

Step 1

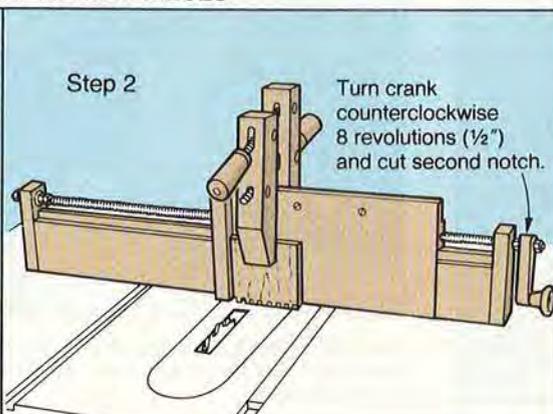
Start with crank in down position.



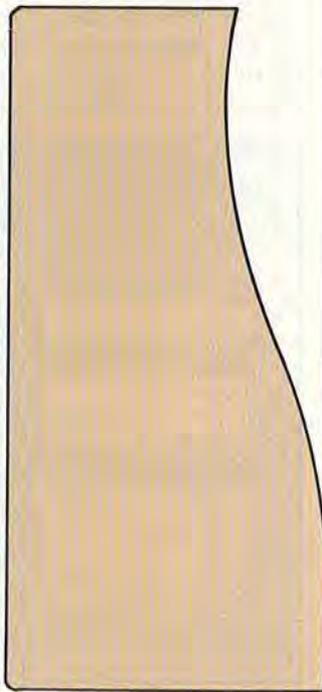
Keep same edge against stop when cutting the ends.

Step 2

Turn crank counterclockwise 8 revolutions ($\frac{1}{2}$ ") and cut second notch.



FULL-SIZED LID PATTERN



COUNTRY COUSINS

MILK TRUCK & PICKUP

Start to finish, it won't take you more than an evening or two to build these delightful pint-sized vehicles. Whether you use them as country decorations or present them to a lucky child as a gift, you can count on these trucks being a big hit.

Note: The following directions are for the milk truck. We built the pickup nearly identically except for the pickup box and rear-wheel spacers. See the box on page 82 for alterations when building the pickup.

CUT THE CHASSIS TO SHAPE

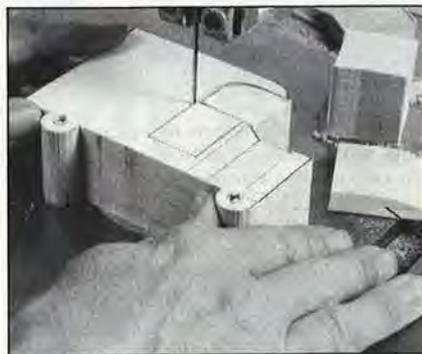
1 Cut a knot-free 12" length from a pine, fir, or spruce 2x6. Plane or joint one edge (not a face) to remove the rounded corners. Cross-cut the 12" length in half. You'll need one 6" length now for the milk truck body (A) and the other one later if you decide to build the pickup body (B).

2 Using carbon paper or a photocopy machine, transfer the full-sized side-view milk-truck pattern to white paper. Apply spray-on adhesive to the back of the paper pattern. Apply the side-view pattern to one of your 6"-long blocks, with the top of the pattern flush with the planed edge of the block. Now, crosscut the front and back of the

milk-truck body flush with the marked pattern lines.

3 Drill a pair of 3/2" axle holes where located on the pattern.

4 Using a bandsaw fitted with a 1/8" blade, follow the pattern lines to cut the truck side profile to shape as shown in the photo below.



Square the blade with the table, and cut the truck body profile to shape on a bandsaw fitted with a 1/8" blade.

5 Position the truck right side up, and mark the hood and radiator lines where dimensioned on the Top View Drawing. Cut the front of the truck to shape on the bandsaw as shown in the photo below.



Carefully mark the two hood layout lines, and cut the truck front to shape on the bandsaw.



FORM THE RECESS FOR THE FRONT-WHEEL SPACERS

1 Chuck a 5/8" flat-bottomed bit (we used a Forstner bit) into your drill press. (The recommended speed for a 5/8" Forstner bit in softwood is 2,400 rpm.)

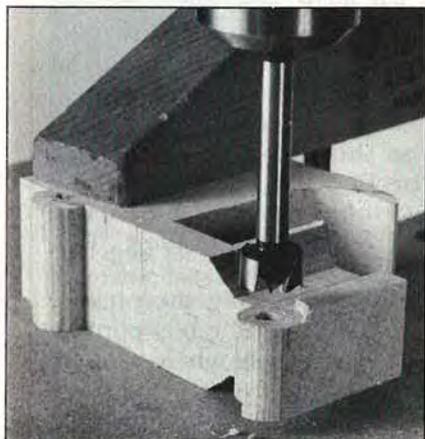
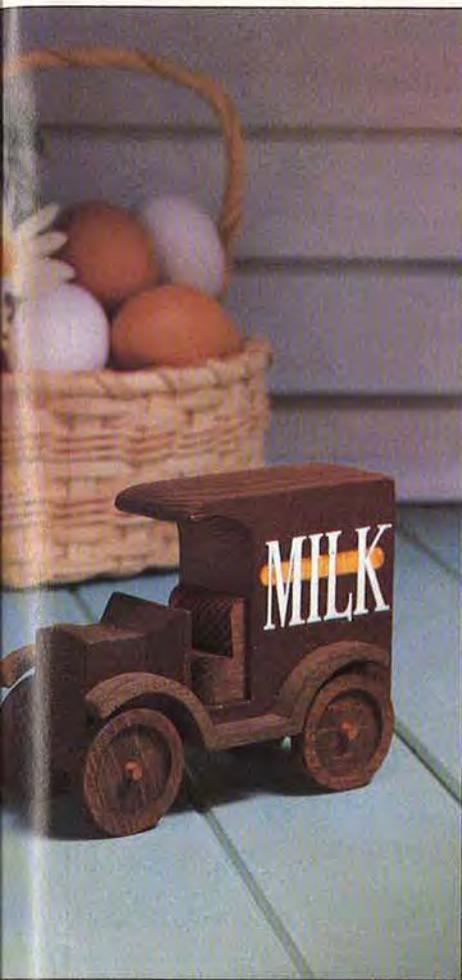
2 Position the truck body on its side on the drill-press table. Center the bit over the previously drilled front-axle hole, and clamp the truck body firmly to the drill-press table with a handscrew clamp. Now, as shown in the photo at right, start the drill, and bore a 1/16"-deep hole. (The area bored with the flat-bottomed bit should be flush with the motor sides cut with the bandsaw.) Remove the clamp, flip the truck body over, and repeat the centering, clamping, and drilling operation on the other side.

3 Remove the paper pattern, and sand the truck body smooth. (Lacquer thinner works great for dissolving the adhesive and releasing the paper pattern.)

Bill of Materials

Part	Finished Size			Material	Qty.
	T	W	L		
MILK TRUCK BODY					
A	1 1/2"	3 1/2"	4 5/8"	pine	1
PICKUP BODY					
B	1 1/2"	3 1/2"	4"	pine	1
C	1 3/8"	1 1/4"	2"	pine	1
PARTS FOR BOTH TRUCK BODIES					
D	1/4"	1"	4 5/8"	pine	4
E	5/8"	1 1/4"	1 1/4"	pine	2
F	1/4"	1 1/2" diameter		pine	8

Supplies: 1/4" dowel, 1/2" dowel, spray-on adhesive, stain, finish.

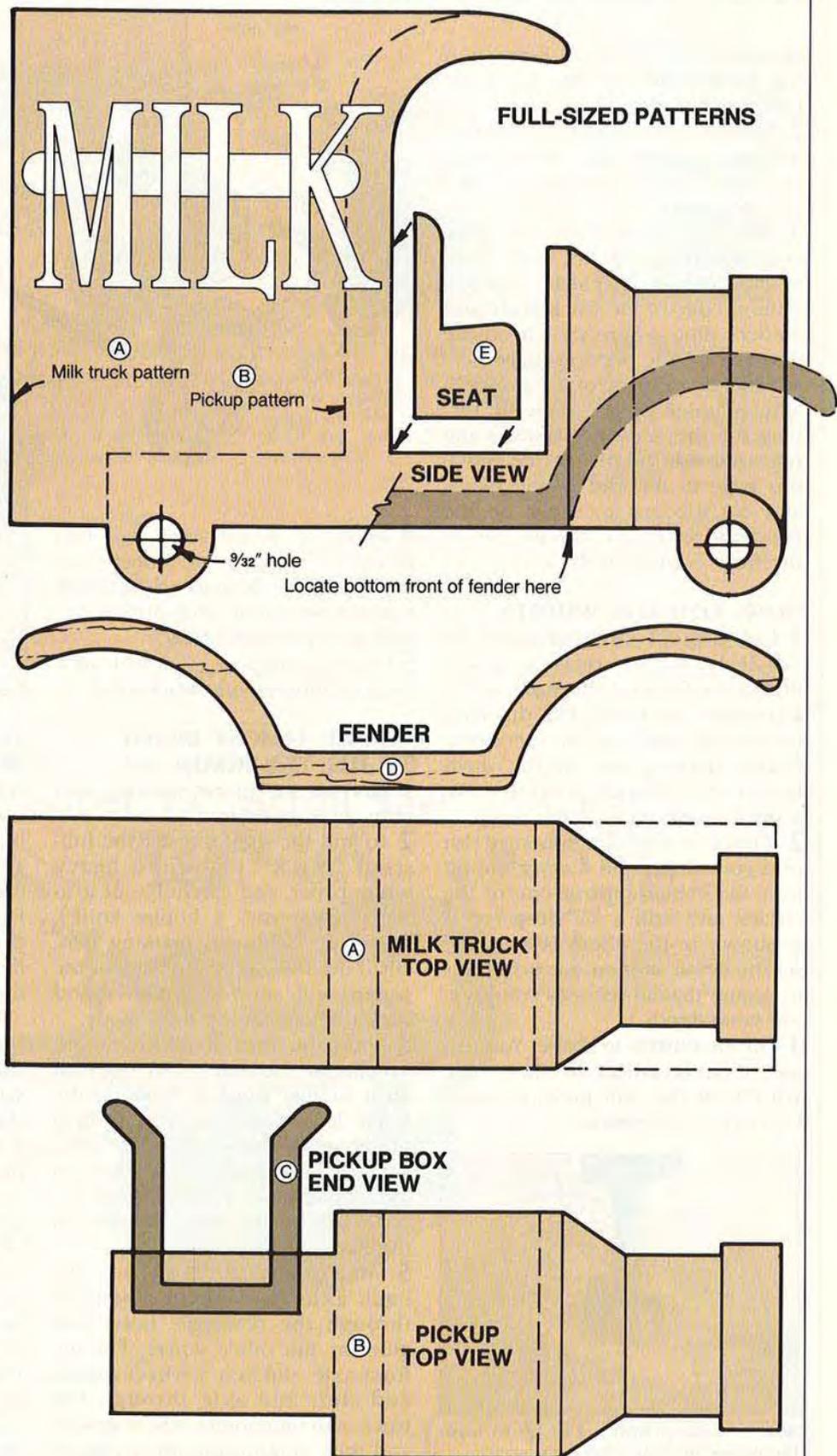


Finish forming the wheel-spacer recess with a flat-bottomed bit.

SHAPE AND ATTACH THE FENDERS AND SEAT

To form the fenders (D), start by crosscutting a 12" length from a 2x4. Plane one edge (not a face) to remove the rounded corners. Position the rip fence on your table-saw 1/4" from the inside edge of the saw blade. Now, rip the planed edge from the 2x4 for a piece

Continued



MILK TRUCK & PICKUP

measuring $\frac{1}{4} \times 1\frac{1}{2} \times 12$ ". Reposition the fence, and rip the $1\frac{1}{2}$ "-wide piece to a 1" width.

2 Transfer the full-sized fender pattern twice to the face of the stock, and band-saw two fenders from the 12"-long piece.

3 Sand the fenders smooth. Glue and clamp the fenders to the side of the truck body. (Make sure the bottom edge of the truck body and fenders align where shown on the drawing on the previous page.)

4 Band-saw a piece of 2×4 material to $\frac{3}{8}$ " thick by $1\frac{1}{2}$ " wide by $1\frac{1}{4}$ " long for the seat (E). Transfer the full-sized side profile on the previous page to the end of the block, and cut the seat to shape on the bandsaw. Sand a $\frac{1}{4}$ " round-over on the front corners of the seat.

NOW, ADD THE WHEELS

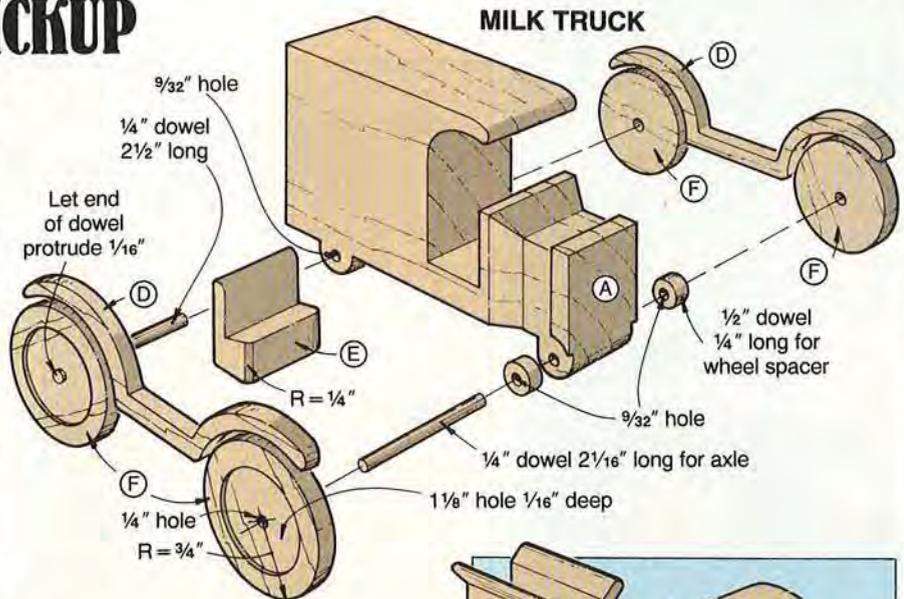
1 Cut a piece of pine stock to $\frac{1}{4} \times 2\frac{1}{2} \times 12$ " (we resawed a section of 2×4 material to size). Using a compass, mark four $1\frac{1}{2}$ "-diameter circles on one face of the stock. When marking the circles, push hard on the compass point to make a small indentation in the wood.

2 Chuck a $1\frac{1}{8}$ " flat-bottomed bit into your drill press. Center the bit over the centerpoint of one of the circles, and drill a $\frac{1}{16}$ "-deep recess as shown in the photo below. (We set the depth stop on our drill press to ensure that all recesses would be the same depth.)

3 Cut the wheels to shape. You can use a circle cutter to shape the wheels on the drill press, or use a bandsaw or scrollsaw.



Bore $\frac{1}{16}$ " deep with a $1\frac{1}{8}$ " bit to form the recess in each wheel.



4 From $\frac{1}{2}$ " dowel stock, cut two pieces $\frac{1}{4}$ " long for the wheel spacers. Clamp each spacer in a small handscrew clamp, and drill a $\frac{9}{32}$ " hole in the center of each.

5 Cut two pieces of $\frac{1}{4}$ " dowel stock to $2\frac{1}{16}$ " long for the truck axles.

YOU'RE ALMOST READY TO HIT THE ROAD

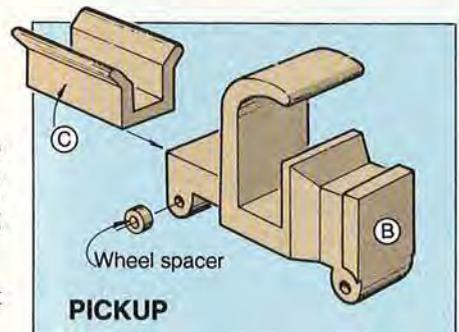
1 Sand all the pieces smooth, and stain them as desired.

2 To add the sign, transfer the full-sized "MILK" logo onto heavy white paper, and carefully cut it to shape (we used a hobby knife). Color the sign with marking pencils if desired. Spray the back of the pattern with spray-on adhesive, and stick the logo to the truck body.

3 Apply the finish to all the pieces, except for the axles. (We sprayed on a lacquer finish.) Covering the MILK logo with finish will help protect it over time.

4 Glue one wheel to each axle so the wooden axle protrudes $\frac{1}{16}$ " beyond the wheel where shown on the Exploded-View Drawing.

5 After the glue dries, slide the back axle and wheel assembly through the rear axle hole, and glue on the other wheel. For the front axle, slide on a wheel spacer, and slide the axle through the truck, slip on another wheel spacer, and then glue on the other wheel.



TIPS ON BUILDING THE PICKUP

Now that you've mastered the milk truck construction, try your hand at building our closely related pickup. To do this, transfer the pickup-body outline shown on the Full-Sized Pattern Drawing on the previous page to the piece of 2×6 stock cut in Step 1 under the heading "Cut the Chassis to Shape."

When band-sawing the pickup body to shape, cut the box portion from the truck body where marked with dashed lines on the full-sized side-view pattern. Using the full-sized Box Drawing (also on the previous page), band-saw the box to shape, hand-sand smooth, and glue it onto the pickup chassis. As shown on the Exploded-View Drawing of the pickup above, you'll need to form two rear-wheel spacers to prevent the back wheels from rubbing against the sides of the pickup box. 🐾

Project Design: James R. Downing
Photographs: Hopkins Associates
Illustrations: Kim Downing; Bill Zaun



BEGINNING-OF-THE-YEAR SPECIALS!



G1022



G1182
Weighs
260 lbs.!



G1018
Weighs
500 lbs.!



G1033

Our Best Selling 10" Tablesaw!

Precision ground cast-iron table and wings, powerful 1½ HP motor, heavy-duty rip fence with micro adjustment and T-slots in table are only some of its excellent features. Weighs 235 lbs.

Regularly \$365.

SALE PRICE \$325

6 x 47" Jointer

All ball bearing, 3-blade cutterhead, 1 HP single phase motor, precision ground beds with an exclusive 47" bed length. This is the nicest 6" Jointer on the market.

Regularly \$335

SALE PRICE \$310

8 x 65" Jointer

Another winner! All ball bearing, 3-blade cutterhead, magnetic switch 1½ HP single phase motor and precision ground cast-iron beds.

Regularly \$665

SALE PRICE \$625

20" Planer

20" x 8" capacity, 2 automatic feed rates, 3 HP single phase motor, 4-blade all ball-bearing cutterhead, built in stand, extension rollers and dust chute. Weighs 950 lbs.

Regularly \$1295

SALE PRICE \$1175

All above prices are F.O.B. Williamsport, PA or Bellingham, WA

NEW TOLL FREE LINES

(FOR ORDERS AND CATALOG REQUESTS ONLY)

EAST OF THE
MISSISSIPPI:

1-800-523-GRRR
(717) 326-3806

← (For Orders & Catalogs Only) →
← (For Inquiries & Customer Service) →

WEST OF THE
MISSISSIPPI:

1-800-541-5537
(206) 647-0801

88-161

NEW
from
Penn State
Industries... a
supplier of quality products
for over 40 years

Professional quality, precision . . .

Super 15" Scroll Saw

Comparable value over \$500

Only ~~\$139.95~~ shipped ready to run

NOW!! includes
\$37.00
free accessories

ON SALE
\$129.⁹⁵
Order Toll Free

This versatile machine makes cutting intricate wood patterns easy — great for making toys, jewelry, puzzles, fretwork, etc. The blade is driven on both up and down stroke with a smooth cutting parallel rocker arm system. This system avoids blade breakage and creates a smooth finish that virtually eliminates sanding. Our saw is easy to use and is made with a cast construction that insures durability. We fully support our product with replacement parts and repairs if needed. Thousands of satisfied customers use our saw world-wide.

SPECIFICATIONS:

- Cast iron construction
- Throat depth — 15"
- Max. depth of cut — 2"
- Cuts per minute — 1650
- Weight — 43 lbs
- Motor — Heavy duty totally enclosed fan cooled 110V - 120V UL listed, ball bearing — induction motor
- **Dust Blower (Optional - Add \$15.00)**
- Use standard 5" blades
- Stroke length — 3/4"
- Table Tilt — 0 - 45°
- Table Size — 8" x 17"

NEW!



Dear Penn State:

"My SUPER Scroll Saw was delivered two days ago and it performs like the neighbor's \$700 one. I'm delighted."

Mrs. S.A. Swartz
White Cloud, KS

"I am thrilled with the performance as is my wife who has operated it more than I have. As a special automatic machine designer for the last 40 years, I feel that I am qualified to compliment you on a well-designed machine."

C.M. Smeigh
Ft. Worth, TX

The Editor

The Woodworker's Journal

"Kudos for the folks at Penn State Industries for value and customer service! When I contacted them concerning a minor problem, replacements were rushed out to me the same day.

As an amateur woodworker, I was pleased to find that lower priced, well made equipment is available from people who are willing to stand behind their products.

A. Mortenson
New Milford, CT

PENN STATE INDUSTRIES - W

2850 Comly Road • Philadelphia, PA 19154
800-288-7297 (Ext. 28) • 215-676-7609 (Ext. 15)

* Add \$15.00 for Blower Option • Visa, MasterCard, Check or Money Order Accepted
Add \$10.00 for shipping in Continental U.S. • Pennsylvania residents add 6% sales tax

30 Day Money Back Guarantee
1 year warranty parts/labor

FREE:

12 Blade Assortment.....\$3.50 value
Extra Blade Holder Set..... 8.50 value
Plastic Lettering Guide Set & Patterns..... 25.00 value
FREE ... \$37.00 VALUE



The Woodworkers' Store®

BUILD WITH QUALITY
Over 3000 Products



Toy Spoke Wheels

For toy or model building.

	Diameter	Set of 4	10 Sets
B2800	2"	\$3.45	\$31.10
B2802	2-1/2"	\$4.50	\$40.50
B2803	2-3/4"	\$4.95	\$44.60

48" Hardwood Dowels

Fine quality, smoothly sanded.

Oak	Each	Per 10	Per 100
B2732	1/2"	\$2.50	\$21.30 \$175.00
B2734	3/4"	\$3.95	\$33.60 \$277.00
B2735	1"	\$5.50	\$46.80 \$385.00
B2736	1-1/4"	\$7.50	\$63.80 \$525.00
Walnut	Each	Per 10	Per 100
B2742	1/2"	\$3.75	\$31.90 \$263.00
B2744	3/4"	\$5.95	\$50.60 \$417.00
B2745	1"	\$7.95	\$67.60 \$557.00
B2746	1-1/4"	\$11.95	\$101.60 \$837.00

NEW!



Shaker Pegs

Genuine hardwood pegs.

Traditional	Each	Per 20	Per 100
B1501	Birch	\$3.30	\$5.40 \$23.00
B1502	Oak	\$4.45	\$8.20 \$34.00
B1503	Walnut	\$4.45	\$8.20 \$34.00
Classic	Each	Per 20	Per 100
B2701	Maple	\$4.40	\$7.20 \$30.00
B2702	Oak	\$4.45	\$8.20 \$34.00
B2703	Cherry	\$4.48	\$8.60 \$36.00



Face Grain Plugs

Wood plugs add professional detail.

	Per 50	Per 1000
B2762	3/8" Oak	\$3.65 \$58.40
B2763	1/2" Oak	\$3.65 \$58.40
B2760	3/8" Maple	\$3.65 \$58.40
B2761	1/2" Maple	\$3.65 \$58.40

NEW!



Satisfaction Guaranteed!

Fast Delivery: Most orders shipped within 24-48 hrs.

SEND TO: **The Woodworkers' Store**
21801 Industrial Blvd., Dept. 1227
Rogers, Minnesota 55374-9514
(612) 428-2199

Item # Qty. Description Cost Total

Item #	Qty.	Description	Cost	Total

Total of Merchandise

Shipping/Handling/Insurance \$3.50

Sales Tax Where Applicable

Total of Order

Check or money order enclosed.

Charge my credit card:

Acct. No. _____

Expires _____ Phone _____

FREE catalog subscription

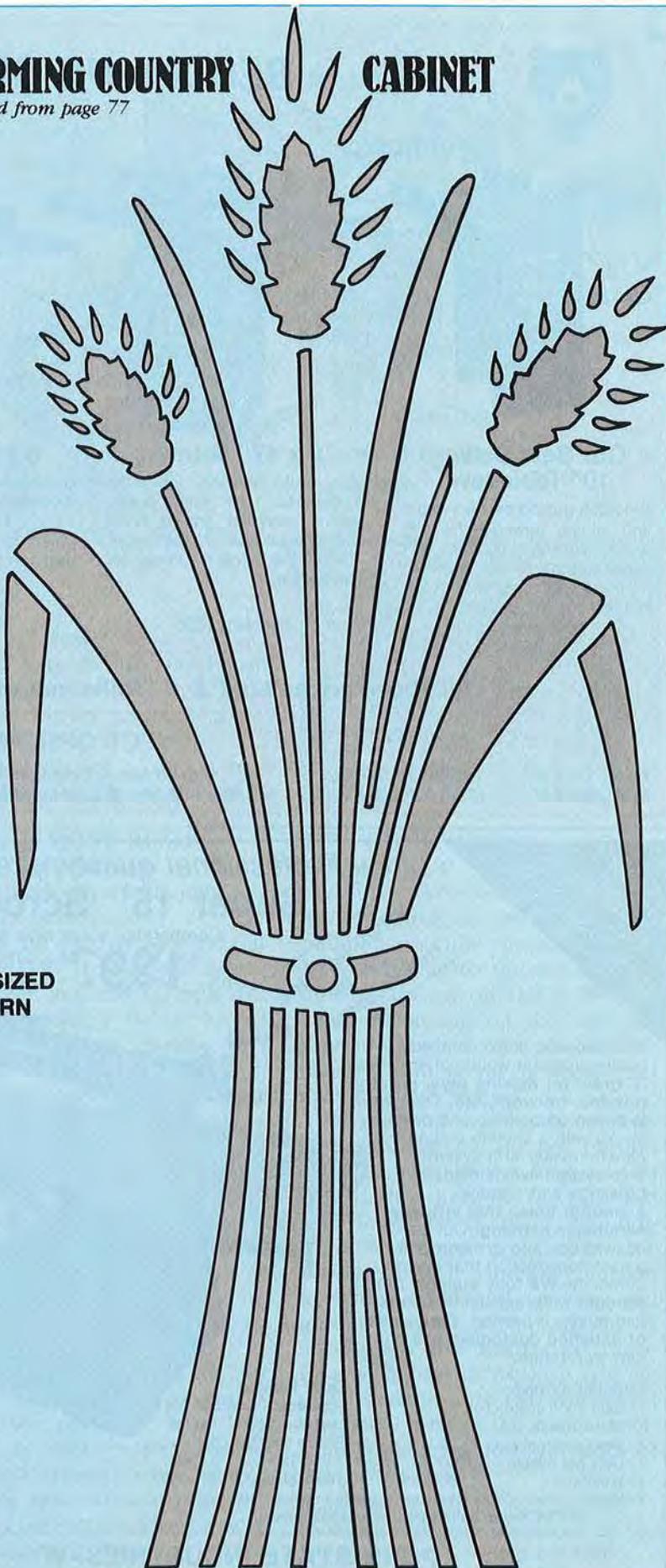
Name _____

Address _____

City _____ State _____ Zip _____

CHARMING COUNTRY CABINET

Continued from page 77



**FULL-SIZED
PATTERN**

PALDAO

A TRUNKFUL OF HORRORS



At first glance, paldao resembles American black walnut.

Prospectors seeking their fortunes in New Guinea during the gold rush of the late 1800s came across huge trees whose wood reminded them of walnut. They called this new-found stock "Guinea wood" and used it for mining construction.

In favored habitat along streams and in marshy soil in Indonesia and the Philippines, the tree we now call paldao will grow to 120' high and 4' in diameter. The remarkable feature of paldao trees, however, is their immense buttresses. These outgrowths that help the tree support itself encircle the trunk like a snake to a height of 30'. At the base of the tree, the thick buttresses spread out like giant roots so that a paldao may measure 40' in diameter at ground level!

To the hill tribes in remote parts of the Philippines, the buttressed paldao trees once represented a

trunkful of horrors. They viewed the trees in fear and awe because they imagined that frightful things, such as armies of evil spirits, hid in the nooks and crannies. In truth, boa constrictors lived there. And in the recesses, head hunters hid.

With such barriers to harvest, it's little wonder it took decades for paldao to break into the world market. Finding fearless native workers willing to log the dreaded paldao was no small problem.

And where, eventually, did paldao find favor? From the often finely figured wood of paldao's trunk and even its buttresses—the same that had concealed spirits, snakes, and head hunters—came exquisite veneers to line high-fashion elevators of the late 1940s. Passengers remarked at the paneling's great beauty, but knew nothing of its tale. ♣

Photograph: Bob Calmer
Illustration: Jim Stevenson

IF YOU VALUE YOUR FINGERS..... YOU NEED A **RIPSTRATE®**

The RIPSTRATE holds the work tight against the fence with no hands near the blade. Makes perfect, straight cuts. Wheels lock to prevent kickbacks. *Requires no adjustment for stock width or thickness.*

Over 30,000 now in use in amateur, professional, school, government, military, and corporate maintenance shops.

One year guarantee, 30 day money back trial. \$69 plus \$3.50 for shipping. Check, M.O., Visa or M.C. Free Brochure.

Write or call our toll free number: 800-421-0256.

Fisher Hill Products 4 Fisher Hill Fitzwilliam, NH 03447
Dealer inquiries invited.

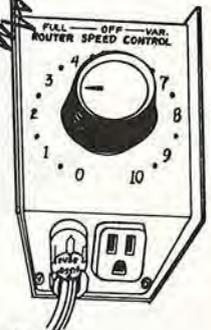


CONTROL THE SPEED OF YOUR ROUTER

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

INTRODUCTORY PRICE
\$39.95 POSTAGE AND
VALUE OVER \$100.00

- LESS TEAR OUT
- STOPS BURNING
- FEED AT COMFORTABLE RATE
- BETTER, SAFER RESULTS WITH LARGE DIAMETER PANEL-RAISING BITS
- LESS WEAR ON BITS
- LESS NOISE AND SOFTER STARTS AT LOWER SPEEDS



FEATURES:

- SPEED ADJUSTABLE FROM FULL SPEED TO 0 RPM
- FULL HORSEPOWER AND TORQUE AT ALL SPEEDS
- GO BACK AND FORTH FROM ANY PRE-SET SPEED TO FULL SPEED AT THE FLIP OF A SWITCH
- WORKS WITH ALL ROUTERS 3 HP OR LESS
- 120V 15 AMP
- GIVES YOUR ROUTER A FEATURE ONLY AVAILABLE ON ROUTERS THAT COST OVER \$500.00

EASY TO USE — SIMPLY PLUG IN SPEED CONTROL AND PLUG YOUR ROUTER INTO THE SPEED CONTROL — TURN DIAL FOR BEST RESULTS. (SPEED CONTROL HAS A CLIP THAT CAN BE WORN ON YOUR BELT OR HUNG ON WALL OR LEFT LOOSE.)

- REDUCES SPEED ELECTRONICALLY WITHOUT REDUCING TORQUE; ELECTRONIC FEED-BACK MAINTAINS SPEED BY INCREASING VOLTAGE TO MOTOR AS LOAD INCREASES.

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

1-800-533-9298

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

MAKE TOYS

CLOCKS & WHIRLIGIGS

Make wooden toys, whirligigs, clocks, dollhouses, autos, music boxes, weather instruments, games, crafts & furniture with our plans, parts (hardwood & metal), kits (for all skill levels), books, tools and supplies. Bulk prices. Catalog \$1. (614)484-4363 Cherry Tree Toys, Bx 369-409, Belmont, OH 43718

WOOD SAWYER

Pre-cut Kit: \$29.95

Just sand & assemble



22" long
Visa/MC
Uncut Kit: \$24.95
Just cut, sand & assemble

BRIDGEWOOD®

15" Thickness Planer

\$795.00

F.O.B.
YORK, PA

FEATURING —

- 3 hp motor • 2 speed feed • dust hood included • stand included • heavy cast iron construction •

Call or write today for more information



NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

Enclosed is \$1.00 for my 52-page catalog of wood and metalworking machinery and accessories.

WILKE MACHINERY CO.
120 DERRY COURT
YORK, PA 17402
717-846-2800



DMT® Diamond Whetstone™

The answer to your sharpening needs
A few light strokes will sharpen knives and achieve perfect edges on all tools.

- Durable • Fast
- Versatile • Clean

Available at quality woodworking stores or
DIAMOND MACHINING TECHNOLOGY, INC.
85-WD Hayes Memorial Drive
Marlborough, MA 01752



101 PATTERNS

This wonderful packet contains 101 FULL SIZE PATTERNS of Gills, Novelties, Lawn Figures, Bird Houses, Shelves, Action Windmills, Alphabets, and many more things. Just trace and saw out. Plus "Make Money Jig Sawing". Only \$7.00 Prepaid 1st Class for this big packet.

MASTERCRAFT PLANS WEST, DEPT 15H
P.O. Box 625, Redmond, WA 98073



90 PATTERNS

LAWN ORNAMENTS • NOVELTIES

FULL SIZE patterns up to 20" high of Dutch boy and Girl, Dwarf, Penguin, Fishing Boy, Animals, Birds, Novelties and many other popular items. Easy to make and sell. Just trace, cut out and paint. Send \$7 today for the LAWN ORNAMENT PACKET containing all 90 patterns. Prepaid, 1st Class.

MASTERCRAFT PLANS WEST, DEPT 12H
P.O. Box 625, Redmond, WA 98073



SQUARE DRIVE SCREWS



- "Cam-Out" is a Thing of the Past
- Heat Treated for Strength
- Deep Thread for Holding Power

Special: 100 each of the following sizes, plus a power driver bit and hand driver. Optional set of 6 heavy duty bins (not shown) stack or wall mount.

Size	Length	\$W/O Bins	\$W/ Bins
#6x 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2		13.35	17.35
#8x 3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2		16.65	20.95
#10x 1-1/4, 1-3/4, 2, 2-1/4, 2-1/2, 3		23.65	27.90

	Order Total	S & H
Shipping & Handling	\$0.1 to \$20.00	\$3.00
(Cont. U.S. Only)	\$20.01 to \$50.00	\$4.50
Va. Res. add 4.5% Tax	\$50.01 to \$80.00	\$6.00
	Over \$80.00	\$7.50

McFEELY Hardwoods and Lumber
P.O. Box 3 • 712 12th Street
Lynchburg • Virginia • 24505
1-800-443-7937 • In Va. 1-800-542-2023

MAKE BEAUTIFUL WOODEN SERVING TRAYS

**FOR FUN!
FOR PROFIT!**
Requires only a minimum of woodworking equipment and only a little prior experience

COMPLETE INSTRUCTIONS — Including sketches variations and information on how to sell.

Send check or money order for \$11.50 plus \$1.00 for handling and mailing to:

WILBANK, Inc
15 Wheat Lane
Darien, CT 06820

Connecticut residents must add 7½% tax

MAIL NOW — If order is received by February 1, 1989 you will receive a free bonus tray color photo!

FREE



48 page catalog for
decoy carvers
wood carvers
wood turners

ORDER TODAY
1-800-221-9474 OR WRITE TO:

P.C. ENGLISH, INC.
P.O. Box 380, Dept FD12, Thornburg, VA 22565

WOODWORKERS

Save on Wood - Tools - Supplies!

OVER 4000 ITEMS

Send for New 1989 148 Page Money Saving CATALOG



Finest Dimensioned HARDWOODS and Quality VENEERS

42 VARIETIES

1/64" to 4" Thickness

Fast service on choice kiln dried Wood and Veneers, Moldings, Trim, Hand and Power Tools, Lamp Parts, Upholstery Supplies, Clock Movements and Kits, Hard-to-Find Hardware, Finishing Materials, Books ... over 4000 items in stock! Craftsman — Woodworker's best friend!

CRAFTSMAN WOOD SERVICE

Dept. WM-19, 1735 W. Cortland Ct., Addison, IL 60101
Please enclose \$1.00 to help pay postage and handling.

Wood Moisture Meter

- Avoid Moisture Problems
- Protect your Masterpiece

MINI LIGNO

Incl. Case, Batteries and Pins for ¾" and ½" Measuring Depth.

only **\$110**

also from Lignomat: **MINI-LIGNO E**
Range: 6%

Easy-to-use, sturdy instruments for the professional woodworker or serious hobbyist. Great for lumber, veneer, fiberboards. Ask for free catalog on the complete line of moisture meters and accessories for kiln drying.



Lignomat USA Ltd. P.O. Box 30145bh
503-257-8957 800-227-2105 Portland, OR 97230

KELLER DOVETAIL SYSTEM

"In a class by itself . . .

. . . made exceptionally clean cuts. It has several advantages over the other jigs. Cleverly simple!" — *WOOD Magazine*

NOW with a 20 Year Limited Warranty!

Cut through dovetails with your router and get it right the first time.

See your Dealer or contact:
KELLER & CO., Dept. G29
1327 I Street, Petaluma, CA 94952
(707) 763-9336

FULL-SIZE FURNITURE PLAN ROLL-TOP DESK



CATALOG 200 full-size professional furniture plans — \$2.00

Authentic double pedestal desk, 30" deep, 52" wide, 30" high. Roll-Top Unit adds 14" to height. Both single curve and double curve full-size profiles included.
Plan #139 (Double Pedestal Desk) \$12.00
Plan #140 (Roll-Top Unit) \$12.00
Complete Desk Plans \$23.00
(catalog free with order)

FURNITURE DESIGNS, INC. Dept. BD-29
1827 Elmdale Ave., Glenview, IL 60025
(312) 657-7526

PATTERNS \$1.00

SAME SIZE OUTLINE DRAWINGS
NO ENLARGING NECESSARY
TRACE & CREATE

FREE CATALOG WITH ORDER

SEND THIS AD & \$1.00 FOR EACH PATTERN (Plus 50¢ postage per order)

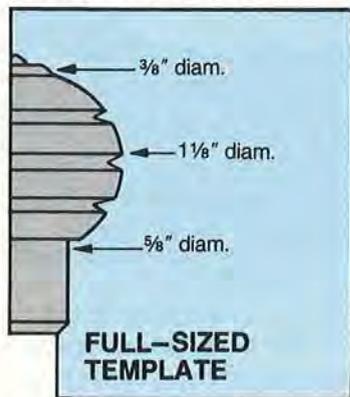
DESIGN GROUP, Box 514-JJ, Miller Place, NY 11764

PERFUME DECANTER

Continued from page 63

"I take pride in making every stopper a bit different," Myles says. (See the Full-Sized Template below to shape the stopper shown in the photograph on page 63.) "When making the fine V-cuts in a stopper, I use a 1/4" parting tool. I lay the tool on its side on the tool rest, and scrape with the side of the tool rather than the flat face," he explains. Use the full-sized template drawing for reference if you decide to make this particular stopper. (In making a few of our own decorative stoppers in the *WOOD*® magazine shop, we found that a skew also works well for forming the stopper and making the V-cuts.)

Next, Myles turns the bottom portion of the stopper at a very slight taper for a snug fit into the 5/8" hole in the cylinder. Finally, he sands the stopper smooth, makes the parting cuts (see the stopper drawing on page 63 for reference), and seals the stopper and body with a clear finish.



BUYING GUIDE

• **Perfume-decanter kit.** 1 5/8 x 1 5/8 x 4 3/8" big-leaf maple burl turning square with ebony laminated to both ends, and a 5/8" hole 3 1/2" deep drilled in one end. The ebony for the stopper measures 1 1/2 x 1 1/2 x 3". Includes glass perfume vial and plastic perfume funnel. \$19.95 ppd. from Gilmer Wood Co., 2211 NW St. Helens Rd., Portland, OR 97210. 🌲

Photographs: Jim Kascoutas;
Pam Gilmer
Illustrations: Kim Downing; Bill Zaun

Be Your Own Boss and Make \$18.00 to \$30.00 AN HOUR!

**Find out how by . . .
... sending now for your Free Lifetime Security Fact Kit!**



Your FREE Lifetime Security Fact Kit tells you how to make \$18.00 to \$30.00 an hour in your own Foley-Belsaw Full-Service Saw and Tool Sharpening Business. Your FREE Fact Kit explains how you can:

- be your own BOSS!
- work full time or part time, right at home.
- do work you enjoy and take pride in.
- operate a CASH business where 90¢ of every dollar you take in is clear cash profit.

And it is *so easy* to learn. Foley-Belsaw gives you all the facts and instructions. No previous experience or special training necessary. All you need is the desire and ambition to be your own boss. Foley-Belsaw tells you everything you need to know to be successful.

There's plenty of business where you live to keep you busy. It doesn't matter whether you live in a big city, small town or a small farm community.

Earn While You Learn

You'll quickly be able to develop the skills necessary to earn a steady income. You'll be able to sharpen all types of saws, garden and shop tools for home, farm and industry.

Profits from your Foley-Belsaw Full-Service Sharpening Business can provide...

... **CASH** for future security or supplemental income
... **CASH** for travel, vaca-

tions, fishing trips
... **CASH** for the things you've always wanted!

And you'll be able to set your own hours and not have to worry about layoffs and strikes. There are no franchise fees. Best of all—age or physical condition is no barrier—any age person can succeed.

You can be like Steve Taylor of Brookville, Ohio, who told us:

"... the first year I grossed \$21,000.00."

Or James B. Jones, of Albuquerque, NM who reported:

"This past summer my sales and service amounted to almost \$6,000.00 a month."

But you've got to get the FACTS before you can get started. So **WRITE NOW** for your FREE Lifetime Security Fact Kit. It's yours to keep with NO OBLIGATION.



Foley-Belsaw Co.
6301 Equitable Rd.
Dept. 20776
Kansas City, Mo. 64120

FREE Lifetime Security
FACT KIT



Foley-Belsaw Co.
6301 Equitable Rd., Dept. 20776
Kansas City, Mo. 64120

YES, I want to know more! Please rush my FREE Lifetime Security Fact Kit. No obligation and no salesman will call.

Name _____

Address _____

City _____

State _____

Zip _____

(_____)
Area Code Phone

Europe's Favorite Home Workshop • K5

A Combination Woodworking Machine That Puts The Precision and Convenience of Individual Tools Into a Compact, Affordable Package.

Turn your "dream" projects into finished projects with the power and precision of a full professional cabinet shop!

You can saw, plane, mold, and mortise with ease and accuracy -- on anything from a baby-doll cradle to a full set of kitchen cabinets! Yet the K-5 takes up less than 12 square feet and requires almost no adjustment to change operations.

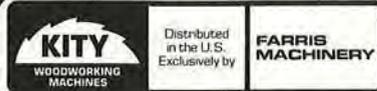
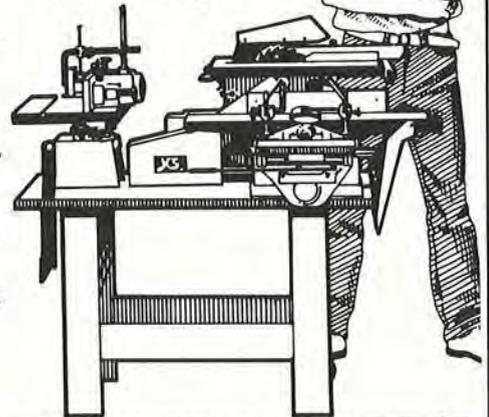
Find out how you can use this remarkable tool for 30 days in your own workshop -- without risk!

Call or Write For More Information...

1-800-USA-KITY

In MO Call Collect (816) 229-3055

Also Available from
FARRIS MACHINERY
 10" Table Saw • Band Saw
 10" Jointer/Planer
 12" Jointer/Planer
 3-Speed Shaper • Lathe
 Accessories • Tooling



Distributed in the U.S. Exclusively by

FARRIS MACHINERY

Yes, Please rush complete information on the KITY K-5 and details on how I can try this machine in my shop for 30 days risk free

Mail Coupon To:

Name _____

Farris Machinery
 Dept. D189 309 N. 10th
 Blue Springs, MO 64015

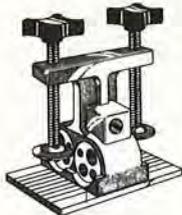
Address _____

City _____ State _____ ZIP _____

WOODWORKERS

DOWEL CRAFTER™

Self-Aligning
Doweling Jig



\$35.95 ppd

FREE CATALOG SUBSCRIPTION WITH PURCHASE.

CATALOG ONLY.

2 year subscription (8 issues) \$4.00.
 Free \$5.00 gift certificate with catalog order.

R. A. NESS & CO.
**THE WOODWORKERS
 EMPORIUM**

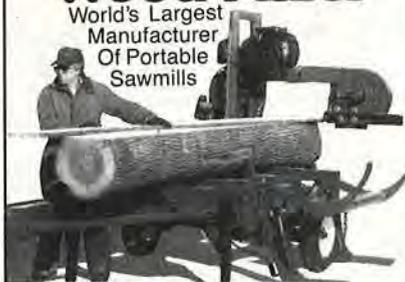
8888 N. MILWAUKEE AVE.
 NILES, IL 60648

(312) 824-0565



Wood-Mizer®

World's Largest
 Manufacturer
 Of Portable
 Sawmills



OWN YOUR OWN SAWMILL

Four Models To Choose From
SAVE MONEY—

CUT YOUR OWN LUMBER

- Remote hydraulic log handling
- Capacities up to 32" in dia. by 33' long
- Portable—precise—rugged
- Efficient—more lumber per log

CALL FOR FREE CATALOG

1(800)553-0219

In Indiana call: (317) 271-1542
FREE 44-page catalog or use your MasterCard or VISA to order our 50-minute demonstration video—\$10.00

Wood-Mizer Products, Inc. • Dept. QQ26
 8180 W. 10th St., Indianapolis, IN 46214-2430



2 screws & "Accu-Space" turns your radial arm saw into an accurate mortise spacer. Milled from aluminum with 3 spacers, 1/2", 3/4" & 1". Complete set \$29.85 + \$1.50 PH.

Available set of 3 spacers 3/8", 5/8" & 7/8" at \$5.85 + \$1.00 PH.

Complete with both sets postage paid \$37.00

Direct mail;
Accu-Space, Inc.
 P.O. Box 4304
 Muskegon, MI 49444

616-733-2474

ASK WOOD



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. We'll consult our experts for answers. Send your questions to:

Ask **WOOD**
 Better Homes and Gardens®
WOOD® Magazine
 Locust at 17th
 Des Moines, IA 50336

Due to the volume of mail, we can't promise to answer all questions, but we'll try. We may edit letters selected for publication.

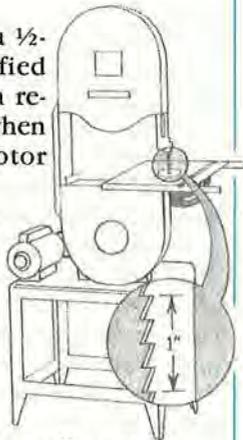
MORE POWER TO YOU

I have a 14" Delta bandsaw with a ½-hp., 110-volt motor. I was satisfied with its performance except when resawing stock 3" or greater. Even when using a slow feed rate, the motor bogged down.

I purchased a 1-hp., 220-volt motor that turns at 3,450 rpm (twice the rpm of the ½-hp. motor) and a 12" drive pulley. The saw has the same blade speed as before, but now resaws thick stock without bogging down.

My question is, other than doubling the horsepower, what other effect did doubling the drive-pulley size and changing to 220 volts have on the saw's performance?

—Marc D. Phillips, Lakewood, Calif.



Lou Brickner, vice president of engineering and product development for Delta International Machinery Corp., agrees that you have found one solution to resaw 3" or larger material. However, he suggests that readers may want to consider one of two other less-expensive alternatives. Lou recommends a ¾" skip-tooth blade (4 teeth per inch) when resawing most material with a ½-hp. motor. In Delta's shop, they resaw 6"-thick stock with this blade and a ½-hp. motor. You also could step up to a ¾-hp. motor that Delta offers as standard equipment on all enclosed-stand models and one open-stand machine.

IN SEARCH OF THE PERFECT SANDING DISC

I have a 6" disc sander that uses pressure-sensitive adhesive discs. Is there a sanding wheel—perhaps diamond embedded—that lasts forever? I am tired of the time it takes to change the discs.

—Lisa Keena, Glendora, Calif.

We know of no permanent sanding discs on the market. However, quality does vary. Auto paint/finish stores sell some of the toughest abrasives we've seen.

Continued on page 90

SCROLL SAW BAND SAW

INTARSIA PATTERNS

BY
 INTERNATIONAL AWARD WINNING ARTIST
JUDY GALE ROBERTS

AS SEEN IN "WOOD" AUGUST 88

INTARSIA, the art of wood inlay, has been made more fascinating with the "sculpted" look. Judy's contribution to this ancient art is stimulating its recent revival. Now you, too, can enjoy the creative satisfaction of woodworking's high art - intarsia.

For a FREE list of Judy's Intarsia Patterns, send a self addressed / stamped envelope to the address shown below.

JUDY'S PATTERNS
 PO BOX 1925
 LUFKIN, TEXAS 75902

BAND SAW SCROLL SAW

WRITE FOR OUR FREE CATALOG

AMT
AMERICAN MACHINERY TOOL COMPANY

POWER TOOLS PLUS

NEW

\$169.00

NEW

\$28.00

NEW

\$64.00

NEW

\$110.00

NEW

\$190.00

NEW

\$395.00

NEW

\$445.00

FREE OFFER

Cut-Out-The Coupon Below and Mail to AMT

AMT Fourth Avenue & Spring St., P.O. Box 70
 Royersford, PA 19468 (WMJFCR)

Name _____

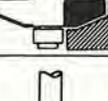
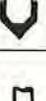
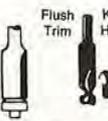
Address _____

City _____ State _____ Zip _____

CARBIDE TIPPED ROUTER BITS

PROFESSIONAL PRODUCTION QUALITY

1000's SOLD TO READERS OF FINE WOODWORKING

BEST CUT BEST PRICE	ITEM NO.	DESCRIPTION	RADIUS	LARGE DIAM.	CUTTING LENGTH	PRICE
	#01	COVE 1/4" R	1/4"	1"	1/2"	\$13.00
	#02	3/8" R	3/8"	1-1/4"	9/16"	14.00
	#03	1/2" R	1/2"	1-1/2"	5/8"	15.00
	#04	ROUND OVER 1/4" R	1/4"	1"	1/2"	\$15.00
	#05	3/8" R	3/8"	1-1/4"	5/8"	16.00
	#06	1/2" R	1/2"	1-1/2"	3/4"	19.00
	#07	ROMAN OGEE 5/32" R	5/32"	1-1/4"	15/32"	\$18.00
	#08	1/4" R	1/4"	1-1/2"	3/4"	20.00
	#11	3/8" RABBETING	Deep 3/8"	1-1/4"	1/2"	\$14.00
	#09	1/8" (KERF) SLOT CUTTER		1-1/4"	1/8"	14.00
	#10	1/4" (KERF) SLOT CUTTER		1-1/4"	1/4"	14.00
	#12	45° Chamfer	45° Angle	1-1/2"	5/8"	\$15.00
	#15	Raised Panel	20° Angle	1-5/8"	1/2"	\$25.00
	#35	1/4" V Groove 90°		1/4"	1/4"	\$ 8.00
	#36	3/8" V Groove 90°		3/8"	3/8"	9.00
	#37	1/2" V Groove 90°		1/2"	1/2"	11.00
	#16	3/8" Dovetail 9°		3/8"	3/8"	\$ 7.50
	#80	1/2" Dovetail 8° (For Leigh Jigs)		1/2"	13/16"	12.00
	#17	1/2" Dovetail 14°		1/2"	1/2"	8.50
	#18	3/4" Dovetail 14°		3/4"	7/8"	10.50
	#19	CORE BOX (ROUND NOSE) 3/8" Core Box	3/16"	3/8"	3/8"	\$11.00
	#20	1/2" Core Box	1/4"	1/2"	11/32"	14.00
	#21	3/4" Core Box	3/8"	3/4"	5/8"	18.00
	#056	Tongue & Groove (FOR WOOD THICKNESS FROM 1/2" to 1")		1-5/8"	1"	\$30.00
	#24	1/4" Straight Bit		1/4"	3/4"	\$ 7.00
	#25	5/16" Straight Bit		5/16"	1"	7.00
	#26	3/8" Straight Bit		3/8"	1"	7.00
	#27	1/2" Straight Bit		1/2"	1"	7.00
	#28	3/4" Straight Bit		3/4"	1"	10.50
	#13	1/2" FLUSH TRIM		1/2"	1"	\$ 8.50
	#14	3/8" KEY HOLE (This Bit Only HSS)	CUTS 3/8" KEY HOLE FOR FLUSH MOUNTING PICTURE FRAMES, ETC.			\$ 8.50

WHEN ORDERING ANY THREE OR MORE DEDUCT \$1.00 EACH
ALL PRICES POSTAGE PAID

Professional Production Quality • 1/2" Ball Bearing Pilot
• 1/4" Diameter Shanks x 1-1/4" Long • One Piece Construction
• Two Flute Thick High Quality Tungsten Carbide Tips

To order by MasterCard or Visa Toll Free
7 Day—24 Hour Order Service Call
1-800-533-9298

or send check to:

MLCS Ltd., P.O. Box 4053D, Rydal, PA 19046

ASK WOOD

Continued from page 89

HUMIDITY CRISIS

I have become a victim of the "humidity crisis." Recently, I moved from dry Phoenix, Arizona, to the opposite end of the moisture scale, the New Jersey shore.



My main concern is a contemporary-style entertainment center. I used mostly solid oak with oak veneer plywood for the side panels. After living in Jersey for only a couple of months, the drawers and doors began to stick. All the doors and drawers have swollen—some as much as 3/32". I had no idea finished wood could change so much.

I finished my project with one coat of Watco Danish oil and three coats of Deft wood finish. Each coat dried completely before rubbing and recoating.

What did I do wrong? If I plane down the doors and drawers, would I have the reverse problem if I moved back to Arizona?

—John Comer, Toms River, N.J.

Moves from one climate to another can play havoc on furniture. The bottom line, John, is that wood breathes and moves. Here in the Midwest, furniture suffers through humid summers and moisture-deprived winters due to forced-air heating.

For future projects, metal slides will diminish the problem of shrinking and expanding drawers. If there's a chance you'll move again to the Southwest, we don't suggest planing the doors and drawers—you could experience too large of gaps.



Continued from page 33

WOOD Magazine, 17th at Locust, Des Moines, IA 50336. Do not send this request with your entry. Winners will receive a manufacturer's certificate for the amount of the prize won, to be redeemed for merchandise through the manufacturer or a dealer.

Name _____

Phone: Home () _____ Work () _____

Address _____

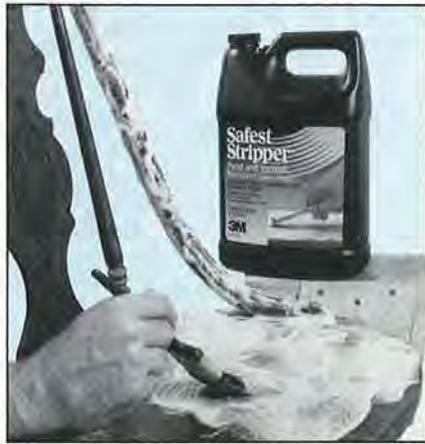
City _____

State _____ Zip: _____

Student Home Hobbyist Professional

I certify that I have designed and built this toy myself. Should my entry win, I agree to cooperate with WOOD magazine in supplying builder's notes and a bill of materials.

Signature _____ Date: _____



Print this article

NO HARMFUL FUMES!
DOESN'T BURN SKIN!

3M's STRIPPER: DRAMATICALLY DIFFERENT

CAN SOMETHING
THAT SOUNDS
THIS GOOD WORK?

Few woodworking chores match the unpleasantness of stripping paint, varnishes, and other finishes from old furniture. Nevertheless, 3M says that one-third of the U.S. population has been involved in at least two refinishing projects during the past five years. So when the people at 3M told us they had developed a non-flammable stripper that doesn't emit harmful fumes or unpleasant odors *and* won't burn your skin, we couldn't wait to get our hands on the stuff.

Called Safest Stripper, the product lived up to its name. Unlike other strippers containing methylene chloride that have container labels plastered with warnings, the 3M label only warns that Safest Stripper can cause irritation of eyes on contact. After watching a 3M employee hold his hand in the product for about 15 minutes at a National Hardware Show demonstration in Chicago, we felt confident enough to tackle a refinishing project without using rubber gloves. Our subject: a 50-year-old oak chair with one coat of varnish. Although we exposed our hands to the product for more than 30 minutes, they showed only slight dryness after wash-up. The substance released a slight odor, but nothing objectionable.

SO IT'S SAFE, BUT DOES IT GET THE JOB DONE?

Safest Stripper works slower than strippers containing methylene chloride, but we found that with liberal applications, patience, and a little extra elbow grease, it removes

varnishes and paints as well as any other stripper we've tried. On the oak chair, we followed the directions and applied a 1/8" coat to all surfaces and waited 20 minutes for the stripper to work.

We had similar results on a walnut dresser with two coats of paint over a coat of varnish. A single application of Safest Stripper dissolved both coats of paint in 2 hours as claimed, but didn't remove as much of the original varnish as a methylene chloride stripper. Scrubbing a second application into the surface revealed bare wood.

Unlike other paint and varnish removers, Safest Stripper doesn't dry out quickly. In fact, we found the product maintains its paste form for as long as 8-10 hours.

FINAL OBSERVATIONS

Safest Stripper suggested retail prices are \$3.79 per pint, \$6.65 per quart, and \$19.99 for a gallon—comparable in cost to other strippers. However, we used about twice the normal amount of stripper. To us, this added cost was more than worth it; we didn't have to buy rubber gloves, and we didn't have to worry about harmful fumes. If you live in a cold climate, where it's expensive to provide ample ventilation, this product may finally allow you to do indoor refinishing work during the winter.

3M product managers expect Safest Stripper will be available nationwide about January 1 at discount and hardware stores. For the dealer nearest you, call 612/736-1077.

Photo: Jim Kascoutas

	QTY.	TOTAL
3-1/2" Economy Shaker Peg	\$14.00 / 100	
3-1/2" Premium Shaker Peg	\$20.00 / 100	
2-1/2" Medium Shaker Peg	\$12.00 / 100	
1-3/4" Mini Shaker Peg	\$ 7.00 / 100	
Bean Pot Candle Cup	\$16.00 / 100	
Mini Bean Pot	\$ 8.00 / 100	

3/4" x 1/8" Hearts	\$ 3.50 / 100	
1" x 1/8" Hearts	\$ 4.00 / 100	
1" x 1/4" Hearts	\$ 6.00 / 100	
1" x 1/2" Hearts	\$ 6.50 / 100	
1-1/4" x 1/8" Hearts	\$ 5.00 / 100	
1-1/4" x 1/4" Hearts	\$ 7.20 / 100	
1-1/4" x 1/2" Hearts	\$ 8.50 / 100	
1-3/4" x 1/8" Hearts	\$ 9.50 / 100	
2" x 1/4" Hearts	\$12.90 / 100	

1" Maple Toy Wheels	\$ 6.00 / 100	
1-1/4" Maple Toy Wheels	\$ 7.00 / 100	
1-1/2" Maple Toy Wheels	\$ 8.00 / 100	
Axle pegs for above wheels	\$ 4.00 / 100	
1-1/2" Maple Spindles	\$ 8.00 / 100	
2" Maple Spindles	\$14.00 / 100	

Door Harp Parts!

3/4" prebored Door Harp Balls	\$ 8.00 / 100	
Tuning pins	\$17.00 / 100	
Wire-550 Ft. 12 gauge	\$12.00 / roll	
1" Full Round Balls	\$12.00 / 100	
1-1/2" Full Round Balls	\$19.50 / 100	
2" Full Round Balls	\$10.00 / 10	
2-1/2" Full Round Balls	\$ 1.50 each	
3" Full Round Balls	\$ 2.50 each	

1-5/8" Sawtooth Hanger	\$ 4.00 / 100	
Small picture Hanger	\$ 2.00 / 100	
*17 Screw Eye 1/2" long	\$ 2.00 / 100	
*14 Screw Eye 13/16" long	\$ 3.00 / 100	
Small Eggs 1-3/8" x 2"	\$ 8.75 / 25	
Large Eggs 1-7/8" x 2-1/2"	\$12.50 / 25	
Apples	\$ 1.50 each	

Total for Goods	
Texas Only - Add 7% Sales Tax	
Handling and Insurance	\$3.00
Total	B19

ALL NEW WOOD PARTS CATALOG \$1.00
(Free With Order)

MC OR VISA CHECK ENCLOSED

ACCOUNT # _____

EXPIRES _____ PHONE _____

NAME _____

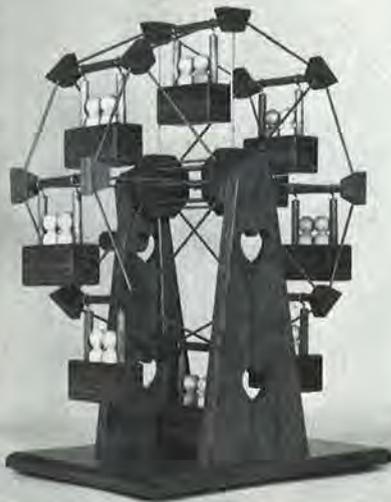
SHIP TO _____

CITY/STATE/ZIP _____

Woodworks

4500 Anderson Blvd.
Fort Worth, Texas 76117
(817) 281-4447

FERRIS WHEEL



21" HIGH, 16" WIDE, 12" DEEP

Delight a child (of any age) and warm your own heart with our exclusive Ferris Wheel. FULL SIZE PLAN PLUS COMPONENTS: 16 wood people, Roto-Hinge, bushings, brass hooks, screws, and 20 feet of solid brass rod! Plan plus components only \$24.95. Fast FREE shipping. Plan and Tool Catalog FREE with order; \$1.00 separately. Send order TODAY to:



RJS Custom Woodworking
P.O. Box 12354, Dept. V
Kansas City, KS 66112

THE ONLY CORRECT WAY TO PREDRILL FOR WOOD SCREWS



New single twist tapered bits cut cleaner, faster
Tapered bits allow screws to grip their whole length for added holding power. Tapered bits outlast conventional bits in this kind of work. Single twist permits efficient chip ejection and reduces clogging. Adjustable countersinks leave a clean hole for plugging. Sets include drills, countersinks, and stop collars for each bit within the set. Production quality for long service life.

801-429 Four-piece set (#6, 7, 8, 10) \$24.95
801-431 Seven-piece set (#5, 6, 7, 8, 9, 10, 12) \$42.50
Please add \$4.50 for packing and insured delivery.
 Please enter my FREE two-year subscription to Woodworker's Supply catalog.

Woodworker's Supply
OF NEW MEXICO

5604 Alameda Place, NE • Dept. WM5
Albuquerque, NM 87113
1-800-645-9292

TOOL INDUSTRY INSIDER



BEWARE OF PEAK HP RATINGS

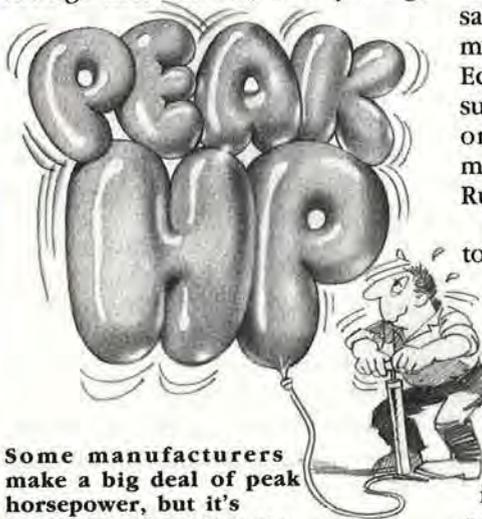
Many power tool manufacturers divide their tools into "industrial," "commercial," "professional," and "consumer" categories, with the consumer tools being the least expensive. Some companies promote tools with peak horsepower ratings (often emblazoned in big numerals on the tool), while their better-built (and more-expensive) big brothers usually don't have peak horsepower ratings. The reason? Probably because experienced tool users know that peak horsepower ratings mean little, if anything,

about the tool's performance.

Peak horsepower refers to the maximum amount of horsepower a tool generates just prior to failure (motor stall), so it has little to do with the tool's actual performance under load. However, even nonpeak horsepower ratings can lie.

"If a manufacturer wants to put a 3 hp rating on a 2 hp motor, there's no stopping him, and there's a lot of this game-playing going on, both domestically and with imports," said Dean Ruffner, woodworking machinery product manager for Jet Equipment and Tools. "The consumer needs to look for a UL listing on the motor—if it has the UL mark, the rating should be correct," Ruffner added.

For another indicator of the tool's power, look at the machine's amperage. Ruffner told us of a tool Jet marketed with a 2 hp, 15 amp motor; another manufacturer sold a similar tool with the same motor and labeled it as having 3 hp. "But," Ruffner said, "that motor listed a 15 amp rating—a sure sign that it's the same power as our motor."



Some manufacturers make a big deal of peak horsepower, but it's really just a lot of hot air.

MAKITA GOES AFTER TAIWANESE IMPORTS

Perhaps you've noticed that several manufacturers sell power tools that look a whole lot like Makita products. Now, Makita's fighting back.

Makita USA, Inc. and Makita Corporation of America have filed a complaint with the International Trade Commission (ITC) charging 31 Taiwanese manufacturers and exporters, and US importers, with infringing on Makita trademarks.

Pat Griffin, Makita's vice president of marketing, says that recently, unauthorized copies of Makita products have become highly visible in the marketplace. "Our national sales force began spotting rip-offs of Makita products at trade shows and in retail outlets and advertising," reports Griffin. "We've



heard about customers who were told that the tools come 'from Makita's back door' or 'from Makita's Taiwan plant.' We don't have a back door, and we don't make any tools in Taiwan."

According to Griffin, if the ITC issues an order against the offending products, the entire power-tool industry benefits. "The Taiwanese tools are poor-quality copies, and the public is being duped into believing otherwise," states Griffin.

Illustrations: Jim Stevenson

Your workshop can PAY OFF ... BIG!

SAVE... convert low cost rough lumber for use in your home projects

OR

EARN EXTRA INCOME by supplying custom Planed Lumber, trim, and molding to lumberyards... contractors... cabinetmakers... home hobbyists and others...

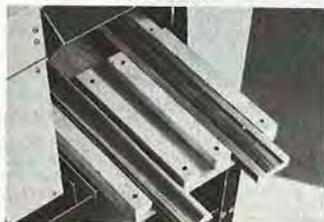


FOUR BIG ADVANTAGES ● ● ●

PLANE



MOLD



SAW



SAND



You can rip, plane, mold & sand All with Automatic Power Feed!

From the Day It Arrives... the Planer will make and save you money. With shortages and inflation driving lumber prices sky-high, this versatile power tool quickly pays for itself by easily converting low cost rough lumber into high value finished stock. In just one pass turn out your own quarter-round, door and window stop, casing, tongue-and-groove... all popular patterns. Other operators are making cases for grandfather clocks, furniture, picture frames, bee hives, bed slats, surveying stakes... all kinds of millwork.

Built For Pros... Priced For Home Craftsmen... it is engineered and built to industrial standards, but factory-direct selling keeps the price low. Handles tough oak and walnut as easily as pine, and so simple to operate even beginners with no experience can use it.

Start Your Own Business... with just this one low cost power-feed machine in a corner of your garage or basement, you're set up to supply lumberyards, cabinetmakers, carpenters, remodelers, contractors and hobbyists in your area with custom-planed lumber, trim, molding... ALL of their millwork requirements. You can supply picture molding to art shops, hardware and department stores, or sell direct to framing shops. All standard patterns are available from stock, or we'll custom grind a knife to your own special design or sample.

FREE BOOKLET!
Get FREE Book with facts and full details... RUSH COUPON TODAY!

NOW YOU CAN Turn Extra Time Into Extra Income! FOLEY-BELSAW POWER TOOLS

If coupon has been removed, just send postcard with name and address to:
Foley-Belsaw Co.
6301 Equitable Rd., Dept. 91359
Kansas City, Mo 64120

**Just Mail Coupon . . .
NO OBLIGATION and
NO SALESMAN Calls!**

ACT NOW!
Coupon
Brings
Full Details!

FOLEY-BELSAW FOLEY-BELSAW CO. 6301 EQUITABLE RD., DEPT. 91359 KANSAS CITY, MO 64120

YES, please send me the FREE Booklet that gives me complete facts about your Planer-Molder-Sander-Saw and full details on how I can qualify for a 30-Day FREE Trial right in my own shop. I understand there is No Obligation and that No Salesman will call.

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Send for your copy Today!

SPECIAL OFFER! 1/2 PRICE!

ENDS 3-31-88 LIMIT ONE PER CUSTOMER

SOLID WALNUT Clock Kit

Ultra-Accurate Quartz Movement



ONLY \$11.95
Reg. \$23.90

COMPLETE KIT INCLUDES:

- Solid Walnut Case
- Painted Dial with Convex Crystal 6"H x 4" W
- Quartz Movement, 3 Year Guarantee 2" D

Finished Clock Worth Over \$50!

ORDER TODAY! #171352 Plus \$3.50 Shpg. & Hndlg.
WI Res. Add 5% Sales Tax



CLOCKMAKERS CATALOG!

FREE!

Over 40 Clock Kits!
Quartz Movements!
Dials and Hardware!

CALL OR WRITE TODAY!

(715) 823-5101

Craft Products Co. SINCE 1940!

Dept. BG9J Box 326, Clintonville, WI 54929

TOTALLY NEW MASS PRODUCTION FURNITURE REFINISHING



MasterFinishers Systems™ is a revolutionary new concept of mass production furniture refinishing. It is a system that has been invented to replace the slow, tedious, exacting work of old-time craftsmen who worked for hours and sometimes days to remove old finishes from furniture by hand. That process is now done automatically with the **MasterFinisher System™** chamber. Therefore, anyone who can flick a switch and has the ability to, say wash a car can operate a **MasterFinishers Furniture Refinishing Factory™**, with tremendous profit potential.

The **MasterFinishers System™** has been so successful for shop owner and founder Al Schmitz of the Detroit area. Personal paychecks many weeks exceeded \$3,000 and some months of 1986 in excess of \$10,000 in quality furniture refinishing from this **MasterFinishers System™**

If you've ever considered starting your own business and you meet our criteria, the **MasterFinishers System™** is the ultimate in rewarding and profitable business in America today!!

Call for Information (313) 338-1630

BE IN CONTROL OF YOUR LIFE!

"Will you have a job tomorrow?"

ONE WEEK INTENSIVE COURSES
Third Generation Master Craftsman



- Fine Finishing
- Impossible Repairs
- Hand Joinery

You Don't Have to Spend a Fortune To Start Your Own Business

Send \$5.00 for complete information including testimonials and tool catalog.

The Hymiller School

912 Lakeshire Drive
Fairfield Glade, TN 38555
615-484-9309

SCROLL SAW LETTERS EASILY...



...with Seyco's Layout Guides!

SPECIAL! (Style #RST-001) 1 1/2" (pictured above)

\$25.00 includes brochure and shipping cost.

Make Name Plates, Signs, Gifts and more.

Our unique Lettering Guides are available in many styles and sizes to suit your needs. Upper and Lower Case, Script and Block Styles...and numbers too. Send \$1.00 for brochure and prices to:

SEYCO The Scroll Saw Specialists

1414 Cranford Dr. • Box 472749 • Garland, TX 75047

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.

Call or write today for free facts that will help you make and save money.



1-800-648-9200

207-989-4335 Nyle Corporation
P. O. Box 1107, Bangor, Maine 04401

Build Power Tools You Can Be Proud Of... And SAVE!!!

Remember when "quality craftsmanship" meant something? With **GIL-BILT** tools it still does.

- Construct your own:
- 12-in BAND SAW
 - 18-in BAND SAW
 - 10-in. TILT/ARBOR SAW
 - LATHE/DRILL PRESS COMB.
 - 9-in TILT TABLE SAW
 - 6-in BELT SANDER
 - SPINDLE SHAPER
 - CIRCULAR SAW TABLE

GIL-BILT kits include step-by-step plans, full scale patterns and all necessary metal parts and components except wood and motor. Made in America with pride by Gilliom Manufacturing, Inc. since 1946.

Send \$6 per plan or \$24.50 for plans for all eight tools listed above or send \$1 for descriptive brochure only. Satisfaction Guaranteed.

GILLIOM MANUFACTURING, INC.,

Dept WD-JS9
P.O. Box 1018,
St. Charles, MO 63302
Phone (314) 724-1812



Featured here: 18-in. Band Saw

Specs: Throat capacity 18 in.

Thickness capacity 12 in.

Table size 26 in. x 28 in.

Table tilt 0° to 45°

Blade furnished 124 in. x 1/4 in. x 6T

Table height 39 1/2 in.

Overall dimensions 33 1/2 in. wide

29 in. deep

71 1/2 in. high

Speed (w/1,725 rpm motor)

425 rpm 2000 blpm

Order No. 451-K only \$219.50 (less

cost of plan, if previously

purchased) plus shipping

Speed reduction kit available for cutting steel.

Quality

EXOTIC WOOD TURNERS

Burls / Thick Planks / for Bowls / Squares

CABINET MAKERS
Individually Selected Lumber for
Furniture / Boxes / Inlays
OVER 70 SPECIES

All Inquiries Welcome - Call or Write

The Berea Hard Woods Co.

125 JACQUELINE DRIVE, DEPT. 10
BEREA, OHIO 44017
216-243-4452

"It's a Matter of Pride for Both of Us"

DUST COLLECTION

Your best source for a complete line of Round Pipe Fittings

FLEXIBLE HOSE

Available 2" to 24" Diameter
2-ply, wire reinforced

Diameter	10ft.	15ft.
3"	\$57.50	83.75
4"	\$62.00	90.50
6"	\$77.50	113.75



All items in stock ready to ship

ORDER TOLL FREE TODAY! 1-800-367-3828
We Pay ALL Surface Shipping Costs!



MC, VISA, CHECKS ACCEPTED



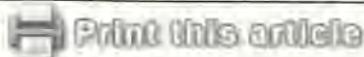
SEND \$2.50 for FULL catalog, Duct calculator and Design information. Free with order.

Air Handling Systems by
Manufacturers Service Co. Inc.
358-B Bishop Avenue
Bridgeport, CT 06610

(203) 336-0533



Information



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.

POWER TOOLS

SCROLL SAW AND LATHE INFORMATION — More than 20 pages of information, including full-color photos, on HEGNER precision scroll saws, HEGNER lathes, and HEGNER duplicators. Find out why these machines are considered state of the art, and what to look for when shopping for scroll saws or lathes. AMI, LTD. \$1.00. *Circle No. 3.*

WOODWORKING PROFESSIONALS ONLY — Now save 50% on machinery, 70% on operating costs! How? By using the world's finest production quality universal machine. Commercial durability, utmost precision, set-up in seconds. No other tool combines usable capabilities like FELDER. Thousands sold all over the world. Now available in America through AMI. Send for brochure. AMI LTD. \$1.00. *Circle No. 4.*

THIS IS IT! THE CATALOG YOU'VE BEEN WAITING FOR!—ACME's catalog contains everything you need whether you're a professional woodworker, hobbyist, or contractor. All 120 pages are fully illustrated, and contain some of the lowest prices on name brand manufacturers that you will find anywhere. A must for anyone serious about saving money. ACME ELECTRIC. \$2.00. *Circle No. 6.*

THE FIRST LINE IN JIG SAW — BOSCH — Bosch gives professionals a selection of top-of-the-line jig saws as well as an impressive selection of blades. Wholesale prices. Send for literature. AVIATION INDUSTRIAL SUPPLY. \$2.00. *Circle No. 12.*

FREE FULL COLOR POWER TOOLS APPLICATION GUIDE/CATALOG—from Dremel describes company's complete line of compact power tools, attachments, and accessories. It features newly designed Moto-Tools, Flex-Shaft attachment, and drill press. Literature also includes descriptions of 170 different bits for cutting, carving, polishing, cleaning, routing, grinding, engraving, and more. DREMEL. Free. *Circle No. 33.*

FREE WOODWORKING POWER TOOL CATALOG—Buy planers, jointers, shapers, table saws, scroll saws, bandsaws, drill presses, wood lathes, sanders, dust collection systems, and more...direct from the factory and save. Foley-Belsaw sells direct to you...so you save on every purchase. You'll find quality power tools, plus hand tools and accessories to meet all of your woodworking requirements. Complete money-back guarantee. Send for details. FOLEY-BELSAW. Free. *Circle No. 41.*

MANUFACTURED SINCE 1926—the Foley-Belsaw Model M-14 Circular Sawmill lets you go right to the trees to turn out smooth, true-cut lumber. Available with heavy-duty steel base or with plans and track provided for owner built wood base. Will accurately saw logs up to 14 ft. in length and up to 24 in. in diameter. Complete money-back guarantee. Send for details. FOLEY-BELSAW CO. Free. *Circle No. 42.*

INCA MACHINERY INFORMATION—Complete information on the famous line of Inca Swiss 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/planners, dust collector, radial arm saw. GARRETT WADE CO. Free. *Circle No. 44.*

POWER TOOLS YOU CAN BUILD AND SAVE—Build sturdy woodworking tools from kits and save — sold for over 40 years — 5-year warranty on parts. Simple step-by-step plans with full size patterns for wood base. Plans and patterns can be purchased separately. Send for descriptive brochure. GILLIOM MFG. INC. \$1.00. *Circle No. 47.*

INTERESTED IN FINE WOODWORKING—with the Excalibur T-Slot Saw Fence system you can turn your table saw into a precision cutting machine and work center. Send for brochure and name of nearest dealer. EXCALIBUR MACHINE & TOOL CO. \$1.00. *Circle No. 51.*

KELLER DOVETAIL SYSTEM—"in a class by itself" — Wood Magazine. Beautiful through-dovetail joints made accurately, quickly and very easily with your router. For novice and pro. Warranted 20 years! Send for full descriptions. KELLER & CO. \$1.00. *Circle No. 56.*

LOBO POWER TOOLS—Our lower prices make our fine woodworking machines more affordable for you. "our customers." We sell a complete line of band saw jointers, plan-

ers, drum sanders, shapers, and much much more. All of our machines come with a 1-year warranty. Order today for a free catalog. LOBO POWER TOOLS. Free. *Circle No. 57.*

MAKITA U.S.A. INC.—offers a 128 page pocket catalog of their professional line with special emphasis on the entire cordless line. Catalog provides complete information along with available accessories, practical applications and suggested retail prices. MAKITA U.S.A. INC. Free. *Circle No. 61.*

SCROLL SAW—Information package available from Penn State Industries describing the specifications and applications of its super 15-inch scroll saw. Special discount pricing available on current promotion. PENN STATE INDUSTRIES. Free. *Circle No. 76.*

QUALITY AMERICAN-MADE SCROLL SAWS—The RBI Hawk family of Precision Scroll Saws with 6 models; one to fit your needs. Patent pending Camover Quick Blade Change system, 2 way tilting tabletop, 2 speed or variable speed motor, all add up to make the Hawk the best value on the market today. Virtually end sanding forever! Send for the facts. RB INDUSTRIES, INC. Free. *Circle No. 84.*

AMERICAN WOODWORKING EQUIPMENT—Over 60 years of experience manufacturing first quality woodworking machinery. The RBI Woodplaner a leader in versatility and durability featuring planing, moulding, sanding and gang jointing capabilities all in one space saving machine. The RBI Joint Machine makes most precision joints simple to make in just seconds. Send for fact filled brochure. RB INDUSTRIES, INC. Free. *Circle No. 85.*

SAKURA SCROLL SAW INFORMATION—You owe it to yourself to compare the value-priced 14-inch 3-speed ScrollMate with other units before you make your buying decision. It offers a built-in air bellows; stand; quick, safe speed changes; and a full 2-year limited warranty—all at a price that's tough to beat. SAKURA USA. \$1.00. *Circle No. 87.*

THE VERSATILE TOOLMAX T310—woodworking machine solves the common "too small a shop" problem by combining a 10" table saw, 1" spindle shaper, 12" jointer, 12" planer and fully adjustable mortising table. Saves 90% on space and 60% on investment. Send for complete color information pack. TOOLMAX. \$1.00. *Circle No. 90.*

MOLDER-PLANERS FROM WILLIAMS & HUSSEY—Mold, plane, and edge, convert from moulder to planer in less than 2 minutes. The W-7 series is available in 3 models for manual, power in feed, or power in feed/out feed. The units plane to a satin, almost sanded finish, produce doll house to crown sized moldings, raised panels, and virtually any shape profile. Custom knives available up to 7" wide and 3/4" depth of profile. Rugged, well-made, dependable, and transportable. Complete with sturdy movable stand. 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 44-page catalog. WOOD-MIZER PRODUCTS. \$1.00. *Circle No. 94.*

WILKE MACHINERY CO.—A full-line machinery company offers their new 52-page catalog featuring the nationally-acclaimed Bridgewood brand name line of woodworking machinery. The complete line of D-I-Y and professional woodworking machinery is well-illustrated and technically described. Catalog sent first-class. WILKE MACHINERY CO. \$1.00. *Circle No. 96.*

IS THIS THE WORLD'S BEST JOINER-PLANER? — We think so and invite you to take a closer look! MiniMax's new FS-35 joiner-planer combines industrial quality with an affordable price that will appeal to professionals and amateurs alike. THE XYLOPHILES CO. \$1.00. *Circle No. 97.*

12", 18" and 25" PLANER/MOLDER/SANDER FROM WOODMASTER TOOLS—a size to meet any shop requirement...all with exclusive variable feed rate. Free information kit includes details on 30-day trial period and easy terms. WOODMASTER TOOLS, INC. Free. *Circle No. 89.*

COMPACT STROKE SANDER FEATURES BIG CAPACITY—The low-cost Model 800 features three built-in speeds, a large, 24" x 48" sliding table with automatic elevation, and a traveling, lever-action, pressure platen. Open-ended design accommodates any length material. Long-lasting belts are 6" x 158". 30-day free trial! WOODMASTER TOOLS, INC. Free. *Circle No. 100.*

HAND TOOLS

WISE-GRIP® LOCKING C-CLAMPS—and new, VIXE-GRIP locking bar clamps. All clamps available with self-leveling swivel pads to protect soft surfaces, and famous, time-saving, locking action. Sizes from 4-24 in. AMERICAN TOOL CO., INC. 25¢. *Circle No. 105.*

DIAMOND WHETSTONES BY DMT—Discover the ease and speed of sharpening on the finest Diamond Whetstones. Five sizes from 3" to 12" in fine, coarse, and extra coarse. Finest monocrystalline industrial diamonds permanently bonded in nickel. Lubricated with water rather than messy oil. Stays flat, unbreakable. Twelve years of serving sharpening needs. Satisfaction guaranteed. Send for full color catalog. DIAMOND MACHINING TECHNOLOGY, INC. \$2.00. *Circle No. 112.*

FINEST QUALITY WOODWORKING & CARVING TOOLS—Featuring Hirsch, Sorby, Footprint, and many other fine European and domestically made tools, books and plans. Carvers, turners and weekend woodworkers will appreciate these quality tools. Price of catalog is refundable with first purchase. NORTHLAND WOODWORKING SUPPLY. \$2.00. *Circle No. 155.*

PERSONAL BRANDING IRONS — Brochure describes branding irons that enable you to put your name on you work quickly and easily. Made especially for branding wood, they are available with 1, 2, or 3 lines of copy or with your logo. Changeable date also available. NOVA TOOL CO. \$1.00. *Circle No. 160.*

THE JAPAN WOODWORKER'S 1989 CATALOG — is loaded with the best tools you can get your hands on. In our catalog you will find a complete selection of Japanese tools for the woodcarver, carpenter, and cabinet maker. Send for catalog plus supplements for next two years. WOODLINE-THE JAPAN TOOL & SUPPLY. \$1.50. *Circle No. 190.*

PLANS

OVER 1000 WOODCRAFT PATTERNS!—Create gifts, toys, whirligigs, lawn ornaments, folk art, bird houses and feeders, magazine racks, household accessories, plus much more! Simple enough for the beginner, fun and profitable for the pro. Catalog plus sample pattern. ACCENTS IN PINE. \$2.00. *Circle No. 310.*

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.*

CRAFTPLANS CATALOG—Wide selection of ideas, plans, patterns for woodworkers. Simple bird houses, toys, weather vane, furniture, entertainment centers, computer desks and much more. CRAFTPLANS CO. 50¢. *Circle No. 325.*

BUILD MINIATURE HORSE-DRAWN VEHICLES—The Concord Stagecoach symbol of the Old West, the Conestoga Covered Wagon, and the Prairie Schooner are some of the vehicles you can build using our plans in 1/12 and 1/8 scale. Concord Coach and Conestoga are available in full size 1" scale cutting patterns. Also English vehicles, some in 1/20 scale cutting patterns excellent for beginners. Ready-made plastic wheels available for 1/20 scale vehicles. Also books featuring from England, "Making Horse-Drawn Vehicles" by John Thompson, who has done extensive work in this area. CRISS-CROSS CREATIONS. \$1.00. *Circle No. 332.*

PATTERNS BY DESIGN GROUP — Hundreds of interesting, useful and fun items to create for personal use or profitable sale. Our newest catalog contains plans for toys, games, plaques, puzzles, birdhouses, planters, furniture, and much more! All Design Group patterns are professional, "same size" blueprints. No enlarging or reducing is necessary. Simply trace outline of item onto wood and create! Started in 1977, Design Group has sold thousands of patterns to thousands of satisfied customers. Prices start at \$1.00, all patterns come with a full money-back guarantee. Wholesale and bulk prices are available on request. Fully illustrated catalog. DESIGN GROUP. \$1.00. *Circle No. 340.*

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. \$2.00. *Circle No. 345.*

The Professional's
Favorite...

JAPANESE SAWS

CLEANER, MORE ACCURATE WORK IN LESS TIME

Japanese saws are designed to cut on the pull stroke. This means the blades can be razor thin and the teeth much sharper, giving you a cleaner, more accurate cut in half the time.

LONG LIFE AND VERSATILITY

These professional carpenters saws are manufactured from high-carbon steel plate and have



replaceable blade handles for long life and versatility.

THE CHOICE OF JAPANESE CRAFTSMEN

Be sure to ask for saws displaying the "little bird in a circle". This will mean you are getting Gyokucho brand Razor Saws; the best selling saws in Japan.



Action Moulding and Supply, Inc.
6140 County Rd. 17
Helena, AL 35080
1-800-228-0474
205-663-0130

AAA Wholesale Tool and Supply
17309 Roscoe Boulevard
Northridge, CA 91325
818-996-1800

Atlas American Tool Co.
869 N. Hollywood Way
Burbank, CA 91505
818-954-9497

Nemy Electric Tool Co.
7655-A Auburn Blvd.
Cittus Heights, CA 95610
916-723-1088

Tool City 8
14136 E. Firestone Blvd.
Santa Fe Springs, CA 90670
1-800-423-7899
1-800-826-7819 (CA)

Whole Earth Access
2990 7th Street
Berkeley, CA 94710
415-848-3600

Wisnoms Hardware
Corner 1st & Delaware
San Mateo, CA 94401
415-348-1092

Schlosser Tool & Machinery
301 Bryant St.
Denver, CO 80219
303-922-8244

Brian's Tool Sales
9 Moody Road
Enfield, CT 06082
203-623-6282

Jacksonville Woodworkers Supply, Inc.
2535 Powers Ave.
Jacksonville, FL 32207
904-737-7508

R.A. Ness & Co.
8888 N. Milwaukee Ave.
Niles, IL 60648
312-824-0565

The Tool Haus
630 N. Silverleaf
Gladwin, MI 48624
1-800-828-0001
313-743-9300 (MI)

O-P Hardwoods
Springfield, MO 65802
417-831-0998
Eldon, MO 65025
314-3926490

Diversified Equipment & Supply
11223 Blair Road
Charlotte, NC 28212
704-545-5188

Woodworking Machinery & Supplies
294 Bealy Dr.
Belmont, NC 28012
704-827-3190

The Tool Chest
45 Emerson Plaza East
Emerson, NJ 07630
201-261-8665 (261-Tool)

Hadeler Hardware Inc.
3 No. Main St.
Pearl River, NY 10965
914-735-2066

Northland Woodworking Supply
1 Lee @ N. Genesee Sts.
Ulva, NY 13502
315-724-1299

The Woodworkers' Store at Brewer's
161 E. Boston Post Road
Mamaroneck, NY 10543
914-698-3232

Lehman Hardware
4779 Kidron Rd.
Kidron, OH 44636
216-857-5441

Moff Master Power Tools
5228 Market Street
Youngstown, OH 44512
216-783-2130

Quality Saw & Tool, Inc.
328 S. Main St.
Mansfield, OH 44903
419-526-4221
1-800-523-6927 (OH)

Woodcrafters Supply Co.
5331 Sinclair Road
Columbus, OH 43229
614-436-6900

Woodcrafters
212 N.E. Sixth
Portland, OR 97232
503-231-0226

Mar-Wood Hardwoods
406-A Huntington Pike
Rockledge, PA 19111
1-800-255-8363
215-663-0446 (PA)

Olde Mill Cabinet Shoppe
Rd#3 Box 547-A
Camp Betty Washington Rd.
York, PA 17402
717-755-8884

Cherokee Lumber Company
1410 Sevierville Pike
Maryville, TN 37802
615-962-9250

Wood World
13650 Floyd Rd., Suite 101
Dallas, TX 75243
214-569-9130

Western Woodcraft Supply
3149 South State Street
Salt Lake City, UT 84115
801-485-5823

The Source
7305 Boudinot Dr.
Springfield, VA 22150
800-452-9999
703-644-5460

Madison Builders Supply, Inc.
2021 E. Madison
Seattle, WA 98122
206-328-2964
800-426-1164

Reinholt Brothers Company
2402 West Lisbon Avenue
Milwaukee, WI 53205
414-344-5230

For other areas contact: **Robert Larson Company, Inc.**

33 Dorman Ave., San Francisco, CA 94124 • (415) 821-1021

STICKLER FOR DETAIL?—At last an exciting new line of realistic wood block models that you can build with your own scrap wood and dowels and my easy-to-follow instructions. Highly detailed plans for a 20x8 $\frac{3}{4}$ -in. dump truck. **GATTO PLAN SUPPLY**. \$8.00. *Circle No. 355.*

COUNTRY FURNITURE PLANS — Our catalog features more than 30 designs—from a washstand to a roll top desk. Our new book on finishing and refinishing will show you how to finish projects like the pros. Also included are various products for the home workshopper. Send for our latest catalog (price of catalog deductible from first order). **HAM-MERMARK ASSOCIATES**. \$1.00. *Circle No. 370.*

WOODWORKING PLANS — Catalog of full-size plans printed on heavy paper for toys, gifts, novelties, action windmills, shelves, birdhouses, garden furniture, Dutch windmill, lawn ornaments, old-fashioned lawn swing, jigsaw projects for children, and more. **MASTERCRAFT PLANS WEST**. \$1.00 (refunded with first order). *Circle No. 390.*

HEIRLOOM WOODEN HORSE—A decorative piece for your home or for your children's delight. Build this horse yourself, and they will ride it for years. Made of solid wood and beautiful brass. This horse will be the pride of your family for generations. Plan includes specific step-by-step instructions with full-size blueprint and material list. Free blueprint with your order. **THE MASTERS PLAN**. \$10.95. *Circle No. 395.*

FULL SIZE PLANS—for fine furniture, home accessories, and toys featuring *Plan Plus*—the plan complete with hardware and hard-to-find components. "All American Tool Collection" spotlights shop-tested tools made in USA. 18-page catalog; price refunded with first order. **RJS CUSTOM WOODWORKING**. \$1.00. *Circle No. 424.*

CREATE FUN & PROFITABLE WOODCRAFTS—Popular folk-art, toys, decorative country items, old fashioned St. Nicks. 20-page catalog is overflowing with over 400 original projects for all skill levels. Full size blueprint patterns eliminate tedious enlarging—giving you more time to enjoy actual woodworking. **THE WINFIELD COLLECTION**. \$1.00. *Circle No. 480.*

LUMBER

QUALITY EXOTIC LUMBER/TURNING WOODS—We offer a comprehensive selection of fine quality exotic woods: Ebony, Kingwood, Tulipwood, Snakewood, 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.*

WOODWORKERS! HELP CELEBRATE OUR 59TH YEAR OF SERVICE — Send for our new 148-page Craftsman 1988-89 Catalog #55. 42 varieties of choice hardwoods 1/4" to 4-in. thickness. Fine hardwood veneers, tools, moldings, trim, marquetry inlays, upholstery and lamp supplies, finishes, clock kits, and hard-to-find hardware. 4,000-plus items for your projects. **CRAFTSMAN WOOD SERVICE CO.** \$1.00. *Circle No. 520.*

DO-IT-YOURSELF LUMBER DRYING — This 22-page booklet *Kiln Chamber Construction Guide and Operation Manual* is designed for the individual wishing to dry his own lumber with a minimum investment of money, time, and space. Included are principles of dehumidification lumber drying, selection of which dryer is best for you, and kiln chamber plans and construction information. Also you will receive a questionnaire you can fill out and return. Once completed and returned you will receive a free evaluation of your drying needs including investment considerations, operating costs, and payback. **EBAC LUMBER DRYERS**. \$10.00. *Circle No. 525.*

EdLco — WE KNOW OUR LUMBER — Educational Lumber Company is pleased to offer you our new catalog, stacked with excellent buys at delivered prices. Available to you are over 21 species of imported as well as domestic hardwoods, softwoods, turnings, shorts, veneers. All our lumber is kiln dried. As school shop suppliers for 35 years, we know our lumber. It is top-grade. Send today and receive your **BONUS GIFT**: 4 new furniture designs. **EDUCATIONAL LUMBER CO., Inc.** \$2.00. *Circle No. 530.*

RARE AND EXOTIC TROPICAL HARDWOODS—for the serious turner and woodworker. Largest commercial selection of hard-to-find heavyweight dimensions in the U.S. Includes rare Macassar Ebony as well as Bocote, Brazilianwood, Cocobolo, Primavera, Courbaril, Paldao, Lignum Vitae, Ziricote, Kingwood, and others. Turning Stock and some lumber. Wholesale and retail. Best prices from Direct Importer. Color catalogue with prices, description and inventory. **ART EISENBRAND, INC.** \$1.00 (refundable). *Circle No. 535.*

THIN LUMBER—Approximately 20 species— $\frac{1}{8}$ " to $\frac{3}{4}$ " thickness. Thinner material sanded, all KD & surfaced—UPS delivery in continental US included in price. **HARDWOODS OF ILLINOIS**. 50¢. *Circle No. 545.*

LUMBER DRYING — Nyle Corp., the largest manufacturer in the United States of dehumidification Dry Kiln Systems, offers *Introduction to Dehumidification Lumber Drying*. **NYLE CORP.** Free. *Circle No. 565.*

RARE IMPORTED EXOTIC AND DOMESTIC HARDWOODS—The world renowned Martin Guitar Co. sells wholesale and retail exotic wood (4/4, 6/4, 8/4) and sawn veneers ($\frac{1}{8}$ " & $\frac{1}{4}$ " Sanded Stock), plus guitar parts, kits, accessories and second quality guitars. Send for catalog. **SAWMILL/WOODWORKER'S DREAM**. \$2.00. *Circle No. 578.*

POWERMATIC



Call For Our
Low Prices! We carry
the entire Powermatic line
at very attractive prices.
Please call for our prices
on the Model 66 and other
Powermatic machines.
You'll be glad you did!

Model 66 Table Saw with 50" Biesemeyer Rip Fence.
3HP, 1PH or 5HP, 3PH motor FOB our Warehouse.

Mini-Max

World's Best Jointer-Planer
FS35 Jointer-Planer \$2195

Length 63" Width 13 $\frac{1}{2}$ " Weight 719 lbs.

3HP, 1PH or 3HP, 3PH Motor

Please call or write for more information on the FS35 jointer-planer.

We stock the entire Mini-Max line.

Please call for our prices. FOB our Warehouse.

Call for discounted freight rates.



MAKITA

B04510	4" finishing sander	\$ 59
1100	3 $\frac{1}{2}$ " planer kit	\$209
1805	6 $\frac{1}{2}$ " planer kit	\$309
2708	8 $\frac{1}{2}$ " table saw	\$229
3612BR	plunge router	\$189
GUIDES	for 3612BR	\$ 28
3601B	$\frac{1}{2}$ " router	\$116
3700B	$\frac{1}{4}$ " trimmer	\$ 95
4301BV	orbital jig saw	\$139
5007NB	7 $\frac{1}{2}$ " circular saw	\$109
6000LR	$\frac{1}{2}$ " clutch drill	\$119
6012HDW	$\frac{1}{2}$ " cordless clutch drill	\$109
9900B	3x21 belt sander	\$129
998240B	3x24 belt sander	\$149
9401	4x24 belt sander	\$169
98202	blade sharpener	\$169

RYOBI SPECIALS

S500A	3 x 4 $\frac{1}{2}$ " Pad Sander	\$ 39
SU6200	$\frac{1}{2}$ " Sheet Pad Sander	\$ 99
B7075	3 x 21 Dustless Belt Sander	\$105
B7100	3 x 24 Dustless Belt Sander	\$121
B7200A	4 x 24 Dustless Belt Sander	\$148
R151	1HP Plunge Router	\$ 95
RS01	2 $\frac{1}{2}$ HP Plunge Router	\$159
TR30U	Trimmer	\$ 77
TS380	14" Miter Saw	\$369



10" width of cut
13 Amp. 110v
Motor
Powered
CALL FOR
OUR PRICE!

AP-10 Thickness Planer

FREUD SPECIALS

TT-108	8 Pc. Turning Tool Set	\$ 59
90-100	15 Pc. Router Bit Set	\$138
92-100	26 Pc. Router Bit Set	\$284
94-100	5 Pc. Router Cabinet	\$159
FB-100	16 Pc. Forstner Bit Set	\$159
EC-900	5 Pc. Shaper Cabinet Set	\$264
EC-209-213	Raised Panel Cutters	\$85
EC-260	$\frac{3}{4}$ " Cabinet Door Set	\$157

Sawblades

LM72M	10", 24T, Rip Blade	\$38
LU73M	10", 60T, ATB Cutoff	\$38
LU84M	10", 50T, Combination	\$38
	Set of Three Above	\$107
LU82M	10", 60T, Triple Chip	\$42
LU85M	10", 80T, Super Blade	\$59
DS306	6" Dado	\$99
DS308	8" Dado	\$109
JS100	Plate Joiner	\$169
JS020	1000 Biscuits	\$29
F1100	Spare Cutter	\$ 34

MAKITA POWER TOOLS

2040	15" Planer	\$1275
2020	8" Jointer	\$775

HITACHI

F-1000A	Jointer-Planer	\$1395
CB75F	Resaw Bandsaw	\$1645
C15FBP	15" Miter Saw	\$409
C101FB	10" Miter Saw	\$279
TR12	Plunge Router	\$173

PORTER CABLE

518	3HP Speedtronic Router	\$323
300	1HP Router	\$ 93
690	1 $\frac{1}{2}$ HP Router	\$124
310	Laminate Trimmer	\$124
312	Offset Laminate Trimmer	\$133
319	Tilt-Base Laminate Trimmer	\$138
330	Speed-Block Sander	\$ 64
352	3 x 21 Dustless Belt Sander	\$130
360	3 x 24 Dustless Belt Sander	\$185
362	4 x 24 Dustless Belt Sander	\$198
555	Plate Joiner	\$169
345	Saw Boss	Call

JET POWER TOOLS

JBS-14MW	Metal/wood Bandsaw	\$349
JU-6	6" Jointer	\$339
JTS-10	10" Contractors Saw	\$439
CTAS-10	10" T/A Table Saw	\$1275
	with 50" Biesemeyer Fence	
JU-8	8" Long-Belt Jointer	\$899
JWP-15H	15" Thickness Planer	\$999
DC-610	1 HP Dust Collector	\$329
DC-1182	2 HP Dust Collector	\$449

*JET Prices include delivery east of the Mississippi.

LEIGH

TD514L	24" dovetail jig with $\frac{1}{2}$ " bits for $\frac{1}{2}$ " dovetails	\$239
D1258-12	New 12" jig for through and half blind dovetails	\$255
D1258-24	New 24" jig for through and half blind dovetails	\$289

Optional Bits in Stock

Orders over \$35.⁰⁰ include delivery unless otherwise noted. Prices subject to change without notice

The Xylophile's Company

138 E. Loudon Ave. • Lexington, KY 40505

1-800-354-9083 —M/C VISA— (606) 254-9823

Statement of Ownership, Management and Circulation (Required by 39 U.S.C. 3685) 1A. Title of Publication: Better Homes and Gardens Wood. 1B. Publication No. 724890. 2. Date of Filing: September 26, 1988. 3. Frequency of Issue: Bimonthly. 3A. No. of Issues Published Annually: 6. 3B. Annual Subscription Price: \$18.00. 4. Complete Mailing Address of Known Office of Publication: 1716 Locust Street, Des Moines, Polk County, IA 50336. 5. Complete Mailing Address of the Headquarters of General Business Offices of the Publisher: 1716 Locust Street, Des Moines, IA 50336. 6. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor: Publisher: Jerry Kaplan, 750 Third Avenue, New York, NY 10017; Editor: Larry Clayton, 1912 Grand Avenue, Des Moines, IA 50312; Managing Editor: Carl Voss, 1912 Grand Avenue, Des Moines, IA 50312. 7. Owner: Meredith Corporation, 1716 Locust Street, Des Moines, IA 50336. The Names and Addresses of Stockholders Owning or Holding 1 Percent or More of the Total Amount of Stock: Cede & Company, Box 20, Bowling Green Station, New York, NY 10004; Emseg & Company, c/o Northwest Bank-Minneapolis, N.A., P.O. Box 1450, Minneapolis, MN 55480; Kray & Co., One Financial Plaza, 440 S. La Salle Street, Chicago, IL 60605; Philadep & Co., 1900 Market Street, Dividends Dept. - 2nd Floor, Philadelphia, PA 19103; Polly & Company, c/o Wall Street, A Bank of New York Division, 67 Broad Street, New York, NY 10004; Prop & Co., c/o Norwest Bank of Des Moines, N.A., 666 Walnut Street, P.O. Box 837, Des Moines, IA 50304; Prudential Insurance Company of America, Prudential Plaza, Newark, NJ 07101; The E. T. Meredith and Bohem families and family foundations own directly or beneficially, through some of the nominees listed above, approximately 24.25 percent of the issued and outstanding stock of the corporation. Each nominee holds stock for one or more stockholders. 8. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities: None. 9. Item 9 of PS Form 3526 not applicable. 10. Extent and Nature of Circulation—A. Total No. Copies (Net press run): Average No. Copies Each Issue During Preceding 12 Months, 701,060; Actual No. Copies of Single Issue Published Nearest to Filing Date, 727,930. B. Paid and/or Requested Circulation: 1. Sales Through Dealers and Carriers, Street Vendors, and Counter Sales: Average No. Copies Each Issue During Preceding 12 Months, 98,833; Actual No. Copies of Single Issue Published Nearest to Filing Date, 100,000. 2. Mail Subscriptions (Paid and/or requested): Average No. Copies Each Issue During Preceding 12 Months, 409,710; Actual No. Copies of Single Issue Published Nearest to Filing Date, 411,930. C. Total Paid and/or Requested Circulation (Sum of 10B1 and 10B2): Average No. Copies Each Issue During Preceding 12 Months, 508,543; Actual No. Copies of Single Issue Published Nearest to Filing Date, 511,930. D. Free Distribution by Mail, Carrier, or Other Means: Samples, Complimentary, and Other Free Copies: Average No. Copies Each Issue During Preceding 12 Months, 20,452; Actual No. Copies of Single Issue Published Nearest to Filing Date, 40,712. E. Total Distribution (Sum of C and D): Average No. Copies Each Issue During Preceding 12 Months, 528,995; Actual No. Copies of Single Issue Published Nearest to Filing Date, 552,642. F. Copies Not Distributed: 1. Office Use, Left Over, Unaccounted, Spoiled After Printing: Average No. Copies Each Issue During Preceding 12 Months, 232; Actual No. Copies of Single Issue Published Nearest to Filing Date, 288. 2. Return from News Agents: Average No. Copies Each Issue During Preceding 12 Months, 171,833; Actual No. Copies of Single Issue Published Nearest to Filing Date, 175,000. G. Total (Sum of E, F, and 2—should equal net press run shown in A): Average No. Copies Each Issue During Preceding 12 Months, 701,060; Actual No. Copies of Single Issue Published Nearest to Filing Date, 727,930. 11. I certify that the statements made by me above are correct and complete. (Signed) Larry Clayton, Editor

BUILD BEAUTIFUL MUSICAL INSTRUMENTS!

★ over 30 different designs ★



Send \$1.00 for catalog of kits, plans & supplies

St. Croix Kits

DEPT B2, 423 So. Main Street
Stillwater, MN 55082 (612) 439-9120

Bird Houses & Feeders

Over 23 Styles
Just \$3.00



A variety of designs from a wren house to an elaborate martin colony house. 23 houses and 4 feeders included

Or Send \$.50 for a Craftplan Catalog

Free with plan order. Offer expires 5/1/89



Please Enclose:

\$50 Catalog

\$3.00 Bird House Plan

\$1.00 HANDLING CHARGE WHEN ORDERING PLANS.

Name _____

Address _____

City/State/Zip _____

Craftplans®

21801 Industrial Blvd., Dept. 1308
Rogers, MN 55374-9514

RING MASTER



TEST YOUR IMAGINATION

Create Any Hollow Cylindrical Shape up to 12" dia. Cut flat wood into straight or angle rings, stack rings, glue, sand, & finish. All on your Ring Master.

Now Ring Master Attaches To Your

- SHOPSMITH MARK V
- CRAFTSMAN 12" LATHE

ORDER YOUR FREE BROCHURE TODAY

We accept Master Card, Visa, & C.O.D.
Call 1-800-634-9281 in NC 919 762-6334



Porta-Nails, Inc., P.O. Box 1257, Wilmington, NC 28402

MAKE THESE ON YOUR WORKSHOP DRILL PRESS OR RADIAL ARM SAW



Quality Planers
Since 1956



Model DP-1
for Drill Press
\$32.00



Model RS-1
for Radial Saw
\$35.00

(State Make,
Model, Shaft Dia.)

(Outside U.S. Pay \$1.00 More)

OKLA. Pay 7% State Tax
\$2.50 Shipping & Handling Chg.

Wagner

SAFE-T-PLANER

... Absolutely Safe!

IMPOSSIBLE TO GRAB
OR KICK BACK!

Planes, Rabbets, & Tenons, makes
Picture Frames and Rosettes

... make picture frames, drawer fronts, panels, tapered legs, rosettes, in hundreds of variations! Planes parallel with micrometer precision producing a satin smooth surface. Units include 3 lifetime hi-speed steel cutters, grinding wheel, arbor, wrench and complete photo instructions. Satisfaction guaranteed or your money back.

—SHOP TESTED BY PROFESSIONALS—
Order Direct—Write for FREE LITERATURE

G & W TOOL CO.

P.O. BOX 691464—TULSA, OK 74169
918-486-2761

Save on...

Band Saw Blades Scroll Saw Blades

Free Catalog from OLSON®

Save up to 50% on the Finest Quality Band and Scroll Saw Blades.



Band Saw Owners...
Hard edge, flex back for general purpose sawing; NEW furniture band for cutting wood faster and smoother; and special thin gauge blades for bench top and 3 wheel saws. Welded to the length you need or in 100' coils.

Scroll Saw Owners...
A huge selection of plain or pin end scroll saw blades; fret, spiral and jewelers (metal piercing) saw blades.

Name _____

Address _____

City _____

State _____

Zip _____

OLSON CATALOG SALES

Route 6, Dept. WM
Bethel, CT 06801(203) 792-8622

WOODWORKERS!

We've Got The Tools
You Need...
Give Us A Call
Today.



PORTER+CABLE
PROFESSIONAL POWER TOOLS
\$55

W.S. JENKS & Son



1933 Montana Ave. NE (202) 529-6020
Washington DC 20002 **1-800-638-6405**

DOMESTIC & FOREIGN HARDWOODS

Quality stock for Cabinet Work
Most all sizes from 1" to 4" in thickness

HARDWOODS

ASH—BASSWOOD—BIRCH
BUTTERNUT—CHERRY
CHESTNUT—EBONY—MAPLE
OAK—POPLAR—ROSEWOOD
TEAK—WALNUT
Also hardwood plywoods

SOFTWOODS

SUGAR PINE—CYPRESS—CEDAR
SPRUCE—DOUGLAS FIR etc.
MAURICE L. CONDON CO., INC.
242 Ferris Ave., White Plains, NY 10603
914-946-4111
Monday through Friday 8 AM to 4:30 PM

MAKE CLOCKS

TOYS & WHIRLIGIGS

Make wooden clocks, toys, whirligigs, dollhouses, classic cars, music boxes, weather instruments, desk sets, games, crafts & furniture with our plans, parts (hardwood & metal), kits (for all skill levels), books, tools, finishes and supplies. Bulk prices available. (614)484-4363. Sixty-page color catalog subscription \$1.

14 5/8" high

Peter Rabbit Clock

•Uncut Kit: \$14.95

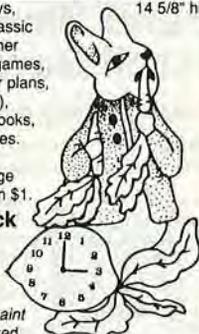
•Just cut, sand, assemble & paint

•Precut Kit: \$19.95

•Just sand, assemble & paint

•Visa/MasterCard accepted

CHERRY TREE TOYS, Bx 369-9, Belmont, OH 43718



Shophelper®

\$69.95

SHOPHELPER. Holds it down for a cut above. Shophelper's unique double wheel configuration gives it the stability required to virtually eliminate kickback and enhances safety. The infixed wheel holds the material down to stabilize the cut. The outfeed wheel controls tipping as narrow as 3/4" x 1/4". Shophelper is the perfect safeguard for professionals and hobbyists alike.

• All Wheels can be Sold Individually and are Interchangeable on Arms

• Three different dual-wheel designs, including single and multi-directional

• Wide range of shoe uses

• Provides a virtually accident free environment

• Straighter, cleaner cuts

• Saves time and materials

• Options include adjustable, slotted track, auxiliary fence, saw guard

Those Multi-Purpose Multi-Colored Wheels

Yellow Wheels turn clockwise for table saw and radial arm saws.

Orange Wheels turn counter-clockwise for radial arm saws.

Green Wheels turn both directions for shapers, routers and planers. (No anti-kickback).

Call For Nearest Dealer
Call Toll Free: 800-344-7455 • In California Call: 800-828-8833
WESTERN COMMERCIAL PRODUCTS • P.O. Box 238, Tulare, CA 93275

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

BAND SAW OWNERS!

A NEW TOOL is now available so you can make or repair any length Band Saw Blade in minutes!

This patented tool was developed for use in our own shop and has proven itself with thousands of high quality, true running splices.

Our splicer enables any craftsman to make up any length blade from economical coil blade stock QUICKLY and EASILY. The resulting silver brazed joint normally outlasts the service life of the blade.

Three models are currently available:
1C-001 1/4" to 3/4" Blades.....\$ 49.95 ppd
1C-002 1/2" to 3/4" Blades..... 49.95 ppd
1C-003 3/4" to 1 1/2" Blades..... 150.00 ppd

The tool comes complete with detailed instructions and supplies for approximately 100 splices.

We also carry additional supplies and OLSON band saw stock at reasonable prices.

Send L.S.A.S.E. for FREE information to:
NEW MILFORD SPECIALTIES CO.

Dept. BH, P.O. Box 241
Botsford, CT 06404-0241
(203) 426-4276

DEALER INQUIRIES INVITED

38" High
Solid Wood

Rocking Horse Kit

Build this beautiful 38" rocking horse yourself, and have a family heirloom. Our rocking horse kit includes solid wood parts cut and shaped, with all trim included, for only \$69.00 ppd. Check or M.O. accepted.

Tampa Wood Products, Inc.
P.O. Box 14427, Tampa, Florida 33690
Phone: (813) 251-6583

THE CANADIAN WORKSHOP SHOW

(formerly The Woodworking Wood Show)

Feb. 3, 4, 5, 1989

Arts, Crafts, Hobbies Building
Exhibition Place, Toronto

Hours:

Fri. 4 to 10 p.m.;

Sat. 10 a.m. to 7 p.m.;

Sun. 10 a.m. to 5 p.m.

Exhibits, seminars,
demonstrations,
product sales.

For more information call: (416) 475-8440.

WOODCRAFT

—full size patterns—

A. 10 Exotic Patriotic Projects
B. 17 Country Felina Projects
C. 9 Exclusive Folk Art Horses
D. 45 Country Folkart Figures
E. 10 Old Fashioned St. Nick's
F. 20 Craft Show Best Sellers
G. 24 New Shelf Critter Designs
H. 12 Country Shelf Designs
I. 14 Folk Art Shelf Sitters
K. 10 Country "DAWG" Projects

\$5.00 EACH
3 FOR ONLY \$13.00

The Winfield Collection, Dept. W2
12044 Parkin Lane, Fenton, MI 48430
CATALOG \$1.00—FREE WITH ORDER

SPECIAL OFFER

BRANDING IRON

For hard and soft wood

\$2600

Plus \$2.00 for shipping and handling
Nebr. residents add correct sales tax
SATISFACTION GUARANTEED or your money back

• Shipped in 1 week
• Solid brass head — deep cut letters
• First Line: HAND CRAFTED BY — as above
• 2nd line: Your choice — 20 characters/spaces max.
• Compact size
• As above but with 3rd line — \$37.00 + \$2.00

ORDER TOLL FREE 1-800-826-7606 (except Nebraska)
In Nebraska 1-402-464-0511

For free brochure, write or call (402) 464-0511

Order by mail from: **NOVA TOOL CO.**
12500 Fingnan Rd., Dept. BH
P.O. Box 29341, Lincoln, NE 68529

VISA MasterCard

Van Dyke's

Presents a
Catalog

with supplies for upholstery, antique restoration, wood working, caning, brass hardware, carvings and many related trades!

36 Years in Creative Arts & Trades

Many Hard-To-Find Items!

SEND \$1.00 FOR CATALOG TO:
Van Dyke's Restorers
Dept. D55 · Woonsocket, SD 57385

Supergrit SANDPAPER

HIGH QUALITY • DISCOUNT PRICES • FREE FREIGHT most areas

BELTS: BEST RESIN OVER RESIN, HEAVY DUTY "X" WT 10 Box

1 x 42	\$0.70 ea.	4 x 46	\$1.15 ea.
3 x 21	0.75	6 x 46	2.65
3 x 24	0.80	6 x 89	4.75
4 x 24	0.90	Prices quoted 80 grt. other grnts available	

ADHESIVE CLOTH DISCS: BEST RESIN OVER RESIN HEAVY DUTY "X" WT

5" Diameter	\$0.70 ea.	9"	\$1.45 ea.
6"	1.15	10"	1.60
8"	1.15	12"	2.00

Prices quoted 80 grt. other grnts available

CABINET PAPER—BROWN
GARNET PAPER—ORANGE
WET/DRY PAPER—BLACK

40 Grt	50 PK	\$16.00	180 thru 1200 100 PK \$22.00
80 Grt	50 PK	12.00	
100, 120, 150	100 PK	21.00	NO LOAD PAPER—WHITE
180, 220	100 PK	18.00	180 thru 400 100 PK \$19.00

CLEANING STICKS \$3.50 Small \$6.50 Large

CLOTH SHOP ROLLS - SLEEVES AND DRUMS - MASKING TAPE
RED HILL CORP., P.O. Box 500, BIGLERVILLE, PA 17307
CALL TOLL FREE—(1-800) 822-4003
Minimum Order \$25.00 • PA Res. Add 6% • FREE CATALOGUE

GENERAL WOODWORKING CATALOGS

ADVANCED WOODWORKING—Specialty products catalog from the exclusive distributors of Hegner & Felder woodworking machinery. Includes complete selection of scroll saw blades, accessories, and improvements for almost any scroll saw. Also the Hegner precision scroll saws, lathes & duplicators, Jet clamps, workbenches, Felder systems & more. AMI, LTD. \$2.00. *Circle No. 801.*

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.*

CONSTANTINES' CATALOG FOR WOODWORKERS—116 pages packed with over 4,000 products for fine woodworking. Included are 250 kinds and sizes of domestic and imported hardwoods; 150 varieties of exotic veneers, top quality woodworking tools, hard-to-find specialty hardware and accessories; wood finishes, books, plans, and more. 60-day money back guarantee if not fully satisfied. Serving the woodworker since 1812. ALBERT CONSTANTINE AND SON, INC. \$1.00. *Circle No. 820.*

UNBEATABLE PRICES—on the world's most respected tools. Great selection of woodworking aids, some quite hard to find. Send for full color catalog. FINE TOOLS INC. \$1.00. *Circle No. 850.*

WOODWORKING TOOL CATALOG — Complete 92-page catalog of hard-to-find hand woodworking tools. We have a stock of over 300 book titles and carry the Myford English wood-turning lathe. Also inventoried are wood finishes of all possible descriptions and carving tools unequalled anywhere in the United States. Send today for your ticket to woodworker's heaven. You too, can be turning out quality woodwork. FROG TOOL CO, LTD. \$2.50. *Circle No. 853.*

MASTER TOOLS CATALOG—1988-89 212-page master woodworking tools catalog. Full line of the best hand tools, power tools & accessories, machinery, glues, finishing supplies, and much more. Hundreds of books included. 212 pages. All four-color. Lots of technical information. GARRETT WADE CO. \$4.00. *Circle No. 855.*

WOODWORKING MACHINERY CATALOG — Planers, jointers, tablesaws, shapers, drill presses, sanders and much, much more. Buy direct from importer at super low prices. Full color catalog. GRIZZLY IMPORTS, INC. Free. *Circle No. 860.*

THE 1988 HILLER HARDWARE CATALOG—is a comprehensive collection of tools & accessories for you. Select from the best quality tools in the business at a price only a volume supplier can provide. Power tools, hand tools, cutters, blades, & accessories. 24 pages, over 240 tools! HILLER HARDWARE. \$1.00. *Circle No. 875.*

WOODWORKING TOOLS, MACHINERY, & SUPPLIES—W. S. Jenks & Son's new 128 page source book is packed with a full range of tools for the serious woodworker, from hand tools, to portable power tools, to woodworking machinery. Includes many imported and hard to find tools, from the best manufacturers at the most competitive prices. Send for catalog. W. S. JENKS & SON. \$2.00 (refundable with first order). *Circle No. 877.*

LEICHTUNG WORKSHOPS—Discover fine woodworking hand tools and hardware in our 102-page color catalog. For example: Our exclusively-designed 4-way Equi-Pressure Clamp, Double Doweling Jig, plus Brad-Point and Forstner Bits. LEICHTUNG WORKSHOPS. \$1.00. *Circle No. 878.*

FINE WOODWORKING TOOLS CATALOG—Lee Valley Tools catalog of fine woodworking tools and accessories has become a standard reference for woodworkers. It is a superb production containing over 400 professional photographs complemented by objective, straight-forward product designs and technical information on woodworking tools of all kinds. 250 pages, 8½x11 size. LEE VALLEY TOOLS LTD. \$5.00. *Circle No. 879.*

WOODWORKING BOOKS AND VIDEOS AT DISCOUNT PRICES—Most complete listing of over 500 books and over 50 videos for woodworkers. Each book and video is discounted from 10% - 25% off the list price. There is absolutely no shipping charge to any address in the U.S.A. Woodworking, carving, turning, project books and videos by authors such as Roger Cliffe, Dale Nish, Spielman, Tangerman and Tage Frid are listed along with many hard-to-find titles. MANNY'S WOODWORKER'S PLACE. \$2.00. *Circle No. 880.*

WOODWORKING SUPPLIES CATALOG—1200 tools, patterns, veneers, thick and thin hardwoods, plywood, carving and turning stock, hardwood bundles shipped UPS, books, doweling jigs, hinges, hardware, drawer slides, dowels, spindles, 2 plys, flexibles, cane, finishes, stain, inlays, edging, burls, faces, more! Send for your catalog today! BOB MORGAN WOODWORKING SUPPLIES. \$1.00. *Circle No. 890.*

WOODWORKING TOOL CATALOGS — R.A. Ness & Co., the Woodworkers Emporium, offers a 2-year subscription, a total of eight huge sale catalogs. Thousands of industrial quality items — machinery, hand tools, portable electric tools, and supplies — are featured at super sale prices. The fee is refundable with purchase. R. A. NESS & CO., the Woodworkers Emporium. \$4.00. *Circle No. 900.*

TOOLS ON SALE—A division of Seven Corners Ace Hardware Inc. offers a comprehensive catalog featuring over 430 pages of the most competitive prices in the industry. If you're looking for savings and fast delivery on over 4000

Call 1-800-233-7297 (SAWS) for a copy of DML's quarterly promotions and your closest DML distributor.



DML, Inc., 1350 S. 15th St., Louisville, KY 40210

THE
NEW
HEGNER
VARIABLE
SPEED
SCROLL
SAWS
ARE
NOW
HERE

Please tell operator code 324



Call Toll-free

1-800-962-2589



ADVANCED
MACHINERY
IMPORTS LTD.

New Castle, DE 19720

BYROM™



1/2" SHANK 12 PIECE
CARBIDE ROUTER
BIT SET WITH SOLID
BLACK WALNUT WOOD CASE

Retail Value If
Purchased
Separately: \$383.85
SALE PRICE
\$189.95

CALL FOR THE PARTICIPATING
DEALER NEAREST YOU

800-722-5447

HUMFREY'S FOR EXCALIBUR II



EXCALIBUR II PRECISION SCROLL SAW

SHIPPED UPS PREPAID

\$579. U.S.*

NO OTHER CHARGES *Electrics extra

- 1400, 800 & 400 Strokes/PM
- 19" throat, up to 2" thick
- Accepts all 5" blades
- Table tilts 45° left & right
- Cuts wood, plastics, metals etc.

HUMFREY'S ORDER PHONE IN THE U.S. CALL TOLL FREE 1-800-387-9789



J. Philip Humfrey International

3241 Kennedy Road, Unit 7, Department WM 1/2 Scarborough, Ontario, M1V 2J9 (416) 293-8624 Please rush me details of the EXCALIBUR II Precision Scroll Saw.

OFFER INCLUDES 72 ASSORTED BLADE PKG.

Name _____
Address _____
City _____ State _____ Zip _____

ANYTIME ANYWHERE ANYWOOD mold plane and edge



Professionals and hobbyists alike know the strengths of the W&H molder-planer. Superior US-made construction and quick two-minute cutter changes make it a snap to cut moldings and plane hardwoods. It's fast, easy, and super-smooth.

Our five-year warranty and free 30-day trial are your assurance that W&H goes the distance.

Mail this ad or call us toll-free today. 1-800-258-1380 IN NH 603-673-3446

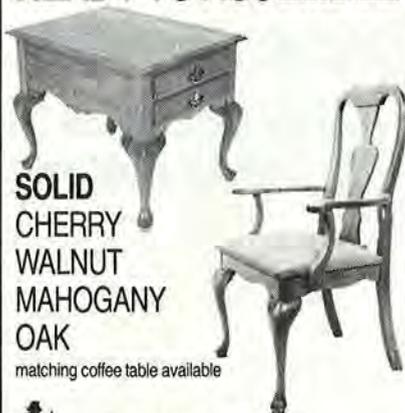
Williams & Hussey Elm Street, Dept. 238AM Milford, NH 03055



YES! Send your free information kit today.

Name _____
Address _____
City _____ State _____ Zip _____

READY TO ASSEMBLE



SOLID CHERRY WALNUT MAHOGANY OAK

matching coffee table available



"FREE BROCHURE" DEPT "M5" (615)587-2942

Adams Wood Products, Inc. 974 Forest Dr., Morristown, TN 37814

If you would like more information about advertising in *WOOD*, contact:

Terry McIntyre
WOOD Magazine
750 Third Avenue
New York, NY 10017
212-551-7130

NEW AND UNUSUAL TOOL CATALOG



Over 100 pages of latest books and quality woodworking hand tools at **NEW LOW PRICES.** Send for **FREE FROG CATALOG** today.

FROG TOOL CO. Ltd.
P.O. Box 8325 Dept. WM13 CHICAGO, IL 60680
Store: 700 W. Jackson (312) 648-1270

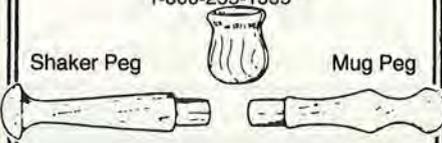
SHAKER PEGS CANDLE CUPS MUG PEGS

\$17.95 per 100, prepaid. Wide selection of other wood products.

Catalog \$2.00 or free with order.

Benny's Woodworks

P.O. Box 840, Dept. WD13 Shelbyville, TN 37160 1-800-255-1335



Shaker Peg

Mug Peg

items, request our catalog. This catalog offers one of the most complete selections of power tools available anywhere from the most respected manufacturers in the industry: Milwaukee, Makita, Porter-Cable, Black & Decker, Freud, Bosch, Delta, and many more. SEVEN CORNERS ACE HARDWARE. \$1.00. Circle No. 920.

A WOODWORKER'S DREAM BOOK!—Power tools...hand tools...machinery...router bits...pneumatic tools...cutting tools...clamps...hardware...wood parts...books...and more! For our new catalog, we've selected the tools woodworkers want most from around the world...at prices that won't hurt your wallet. This is a must reference for every woodworking shop. So give us a try. Price of catalog is refundable with your first purchase. THE SOURCE. \$2.00. Circle No. 935.

TOOL CITY CATALOG HAS THE TOOL OR ACCESSORY FOR YOU!—The 500-page 1987-88 Tool City Catalog is the most complete mail order catalog. It features a comprehensive selection of stationary & portable power tools; hand tools, tool accessories, hardware parts, woodworking books, and shop equipment. Priced to save you money in all categories. TOOL CITY. \$5.00. Circle No. 945.

WOODWORKING TOOLS OF EXCEPTIONAL QUALITY!—Since 1928, we have searched the world for tools you don't just buy, but adopt; tools made by craftsmen for craftsmen, classics of lifetime quality for people who love to work with their hands...carvers, cabinetmakers, finishers, hobbyists, builders, teachers. Our catalog details over 4,000 tools, each backed by Woodcraft's unconditional guarantee of satisfaction. WOODCRAFT SUPPLY CORP. Free. Circle No. 955.

THE WOODWORKERS STORE!—114 pages of domestic and exotic hardwoods, veneers, wood parts, specialty hardware, kitchen accessories, finishing supplies, tools, books, and plans. Catalog filled with hard to find specialties. Orders shipped within 48 hours. Customer satisfaction guaranteed. WOODWORKERS STORE. \$1.00. Circle No. 965.

WOODWORKERS SUPPLY — Offers high quality tools and supplies for skilled, amateur, and professional woodworkers. Our complete catalog includes machinery, hand tools, plans, router bits, shaper cutters, wood specialties, and more. For your two year subscription send to WOODWORKERS SUPPLY OF NEW MEXICO. Free. Circle No. 975.

KITS

CANOPY BEDS, WINDSOR CHAIRS, PLUS SHAKER AND QUEEN ANNE!—museum reproductions lavishly presented with coordinated paints, lighting, pewter, and brass accessories. Furniture available assembled finished or ready-to-assemble kits. Since 1949 Cohasset Colonials has been the oldest and largest manufacturer of reproduction furniture kits. State-of-the-art joinery insures easy assembly. Custom bed hangings, quilts, fishnet canopies. Color catalog subscription. COHASSET COLONIALS. \$3.00. Circle No. 1015.

OAK FURNITURE AND ACCESSORY KIT CATALOG!—features a full range of top quality oak furniture kits and accessory items plus unfinished assembled furniture. Featured items include roll top desks in several styles, stacking barrister's bookshelves, tables, chairs, trunks, file cabinets, bedroom furniture, Mariner's globe, plus many more. Send for full color catalog and enjoy true woodcrafting pleasure. CRAFTSMAN'S CORNER. Free. Circle No. 1017.

FACTORY DIRECT GRANDFATHER CLOCKS!—Build a magnificent grandfather clock kit from world's largest manufacturer. Clocks are made of solid 3/4" hardwoods, primarily walnut, oak and cherry. West German-made solid brass movements. Send for color catalog showing our selection of grandfather clocks, furniture and home accent pieces. Buy direct from factory and save. EMPEROR CLOCK CO. \$1.00. Circle No. 1030.

QUALITY CLOCK KITS AND PLANS — Handmade and semi-assembled of carefully selected 3/4 in. cherry, oak, or walnut with beveled glass. Or build from "scratch" using our detailed plans and trim pieces. Choice of quality movements. Established in 1916. KUEMPEL CHIME CLOCK WORKS. \$2.00. Circle No. 1050.

WOODEN SHIP MODELS — Discover the world's hobby — building fine-quality, historic wooden ship models. Described are true-to-life scale replicas, lifelike in every detail. A 64-page color catalog introduces you to this fascinating hobby. MODEL EXPO, INC. \$2.00. Circle No. 1060.

MUSIC MAKER'S KEEP BOOK!—a 36-page resource catalog for building and learning to play handmade musical instruments. This source book contains plans, blueprints, kits, books, hardware, strings and accessories for building such instruments as guitars, banjos, dulcimers, harps, violins, pipes, and more. ST. CROIX KITS. \$1.00. Circle No. 1080.

SOLID WOOD CLOCK KITS — Full-color catalog of beautiful, easy-to-make clocks. All solid wood with solid brass movements. All parts hand cut for perfect assembly, even by beginners. VIKING CLOCK CO. Free. Circle No. 1090.

PUBLICATIONS

WOOD CARVING — You can obtain information on learning woodcarving by sending for our literature. The offer includes sample copy of *The Mallet Magazine* and two lesson sheets on carving. NATIONAL CARVERS MUSEUM. \$2.00. Circle No. 1140.

Like Having A Lumberyard Right In Your Shop!



**NOW! Choose From
Two Sizes—Popular
12-in. Planer or
NEW 18-in. Model!**

Only **Woodmaster**[®]
lets you

PLANE MOLD & SAND

with the Precision Control of
Infinitely Variable Power-Feed!

MAKES YOU MONEY... SAVES YOU MONEY!

Put this versatile power-feed tool to work in your own 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 & 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.

✓ **Now choose from two powerful models!** Woodmaster introduces the first 18” Planer/Molder . . . the “Big 18” . . . with all of the features that have made the 12-inch model the most versatile Planer/Molder on the market.

✓ **Change to Molding or Sanding in just minutes!** Unique “Morse-Taper” Quick Change Cutterhead guarantees fast change-over . . . bearings remain factory set . . . precisely aligned at all times.

**FREE
30-DAY
TRIAL!**

MADE IN U.S.A.

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

Gets More Done—“I build grandfather clocks, music boxes, toys and picture frames. They say a craftsman is only as good as his tools, and let me tell you, my Woodmaster is tops. I get more done, and done right, than I ever did before.”

R.V. Delacourt, Cleveland, Ohio

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.”

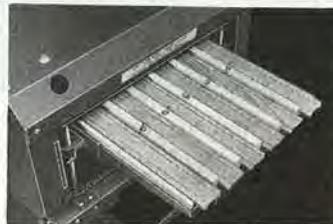
E. D. Holtz, North Carolina

Likes Woodmaster Best—“I have two other planers in my shop . . . wouldn't trade my Woodmaster for either one. I am delighted with its versatility and precision.”

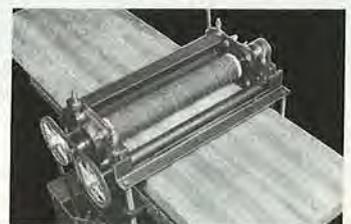
Ron's Custom Cabinets, Colorado

Paid Off Fast—“Paid for itself in no time flat.”

E. L. Walters, North Dakota



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.

MAIL COUPON TODAY OR CALL TOLL FREE 1-800-538-4200 Ext. 2329

FREE 30 DAY TRIAL!

Send for complete information on how you can try this versatile power tool in your own shop for 30 days. You must be satisfied! We'll also send you details on Woodmaster's One Full Year Warranty and our convenient Easy-Payment Plan.



YES! Please rush me your FREE Information Kit which tells in words and pictures why this amazingly designed powerfeed shop is so much better than other single-purpose or combination tools. Also send me details on your 30-DAY FREE TRIAL GUARANTEE.

Woodmaster Tools, Dept. PW29, 2908 Oak, Kansas City, MO 64108

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

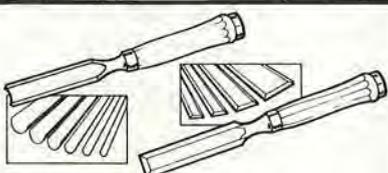
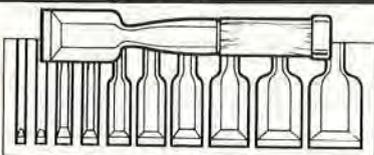
Sometimes You Get More Than You Pay For! 25-pc Brad Point Drill Set

THE COMPLETE SET IN A STEEL INDEX THAT PUTS EVERY DRILL AT YOUR FINGERTIPS. ALL SIZES INCLUDED FROM 1/8" TO 1/2". EVERY SIZE WILL FIT ANY 3/8" OR LARGER DRILL OR DRILL PRESS.

For drilling wood, particularly hard wood, only a brad point drill will do. It provides a clean entry hole - no splintering or tearing - and does so without skating, dancing or running. If you are dowelling, brad point drills are even more important because they put the holes exactly where you want them. Having all the sizes in your tool room will let you drill holes $\pm .0156"$ to accommodate commercial dowelling, which is almost always over or under sized.

10-0100 25-pc Brad Point Drill Set
in Metal Index \$29.95

Order 2 Sets to one address \$26.95 each



We're Not Tool Snobs, But...

Laminated Steel Chisels are just not for everyone. As with much of life, owning and using the very best appeals to only a small select group of people, even when, as with chisels, the cost is clearly affordable.

For hundreds of years, traditional Japanese chisels have been forged by Masters and their journeymen. The blades, of high carbon steel, hardened to Rockwell C 64-66, are supported by an upper layer of iron that absorbs the shock of mallet blows. The very hard steel takes an exceedingly sharp edge and holds it far longer than any Western chisel. These are lifetime tools. Combination Tang and Socket construction for added strength. 9" Overall, 2-1/4" long Blades. Sizes: 1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/4", 1-1/2".

ONLY \$89.95

WHILE STOCKS LAST!
02-0731 Set 10 Chisels

Mass market chisels, whether from England, Spain or Germany, are not just for professionals. Our Heavy Duty Tools are hand made by master craftsmen in Miki City, Japan. There the emphasis on quality is a centuries old tradition. Check out our specs.

THE BLADES: Bevel Edged, Chrome Vanadium Steel Hardened to Rockwell C 60-62

THE FINISH: Mirror Polished
THE HANDLES: Close-Grained, Octagonal Hornbeam, Double Hooped in Steel to Inhibit Splitting

THE LENGTHS: Blades: 4" to 4-1/2"
Overall: 10-1/4" to 11-1/2"

PRESENTATION: In Man Made Roll-Up Pouches

4-pc CHISEL SET: 1/4", 1/2", 3/4", 1" \$34.95
#02-0780

6-pc GOUGE SET: 1/4", 3/8", 1/2", 5/8", 3/4", 1" \$59.95
#02-0790

25%-30% BELOW MARKET!

For all items, add \$3.00 ship. / hand. for 1st set. \$2.50 for each additional. MI residents add 4% Tax; CT 7-1/2%

CALL TOLL FREE: 800-447-7770 • VISA / MC / AMEX

Dollar Trading Corp. (Est. 1953) • P.O. Box 8433 • Grand Rapids MI 49518 • Dept. WM-01

NO HASSLE 30-DAY MONEY BACK GUARANTEE



NEW

GREAT FURNITURE SHOWPIECES-- they're suprisingly easy to build

In addition to our Rolltop Desk CLASSIC, we have a series titles WEEKEND WORKSHOP. Instructions are just as complete as our CLASSIC plans. Rolltop desk plan costs \$12.00 post-paid. Catalog is \$1.00 (free if you request it with your plans order). NY residents must include sales tax. Canadian residents please remit a postal money order in US funds.



HAMMERMARK ASSOCIATES, P.O. Box 201-ABW2, Floral Park, NY 10002-0201

Save time—call 516/352-5198 with your Mastercard or VISA order.

BOOKS BY AMERICA'S FAVORITE WOODWRIGHT—Roy Underhill, creator of "The Woodwright's Shop" for PBS, is the author of three best-selling books on hand woodwork and lore. Send for brochure on *The Woodwright's Shop*, *The Woodwright's Companion*, and *The Woodwright's Workbook*. UNIV. OF NO. CAROLINA PRESS. Free. Circle No. 1185.

SHOP ACCESSORIES

RIPSTRATE SAVES FINGERS — for table saw and radial arm saw users. Brochure describes the RIPSTRATE and shows how it gives straighter cuts, speeds, the work, prevents kickbacks, and keeps hands away from the blade. FISHER HILL PRODUCTS. 25¢. Circle No. 1235.

CLASSIC WORKBENCH—This is a space saver's dream. Assembled & knocked down in minutes. Beautifully designed workbench is made of Danish Red Beech with a linseed oil finish. Other features include built-in precision steel spindle rises & dogs. Send for literature. LAGUNA TOOLS. \$1.00. Circle No. 1240.

ROBLAND ONE-MAN SHOP—Professional quality wood-working machine in a very small area. An ideal machine for people with a limited work area, whether you are professional or a hobbyist. Large capacities, strong motors, cast iron construction, European quality. LAGUNA TOOLS. Free. Circle No. 1241.

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. \$1.00. Circle No. 1245.

CIRC-L-CUT FOR RADIAL ARM—table or band saw. Cut perfect circles from 3" to 48" in diameter from any thickness wood or plastic. DRIL-LATHE converts your drill press into a vertical lathe in minutes! Get professional quality wood turnings up to 1 1/2" diameter x 12" long. HEPP INDUSTRIES. \$1.00. Circle No. 1246.

BUY YOUR SANDING BELTS DIRECT FROM THE MANUFACTURER — Industrial Abrasives is the company that gives you six free belts with every dozen ordered. But, sanding belts are not the only product we have to offer. In our catalog you will find many specialty items not readily available in your hardware store. Price of catalog refunded with first order. INDUSTRIAL ABRASIVES CO. \$1.00. Circle No. 1248.

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.

DUST COLLECTION SYSTEMS—Our 28 page catalog is filled with all the parts needed to design and install a dust collection system. Flex-hose, spiral hose, blast gates, reducers, y-branches, laterals, elbows, and more. The catalog includes tips on how to go about designing and installing your own dust collection system. As an added bonus we are including a duct calculator, Free. Send now for full catalog, duct calculator, and design information. MANUFACTURERS' SERVICE CO. INC. \$2.50. Circle No. 1252.

AFFORDABLE PRECISION SURFACE SANDER—Tired of high and low spots and countless hours of sanding? Now you can buy the components to fit your budget and your needs: The Performax S/T Sander attaches to radial saw or stand, optional power feed conveyor unit, stand hardware kit for a build-your-own stand or all the metal, ready-to-assemble pro stand. Send for informative brochure. PERFORMAX PRODUCTS. \$1.00. Circle No. 1253.

CREATE ANY HOLLOW CYLINDRICAL SHAPE — with 1/4 in. wall thickness, 12 in. diameter. Ring Master cuts perfect rings in any wood, any angle, any size—stack the rings and create any cylindrical shape. Just glue—sand, & finish, all on the Ring Master. Create matched sets of items. Choose from 3 models, 1 attaches to Shopsmith Mark V, another attaches to Sears Craftsman 12" lathe, the original Ring Master is self-powered. RING MASTER, INC. Free. Circle No. 1265.

WHOLESALE SANDPAPER, SANDING BELTS, SANDING DISCS—SUPERGRIT offers its quality line of abrasive products at wholesale prices directly to the consumer. Full or partial box orders welcomed. \$25 minimum order. Prompt, free UPS shipment to most areas. Literature, price list. RED HILL CORP. 50¢. Circle No. 1267.

BITS, BLADES CUTTING TOOLS

BANDSAW BLADES FOR ALMOST ANY TYPE BANDSAW—both wood and metal cutting. Also circular saw

blades, router bits, sanding belts and discs. Send for catalog. BUCKEYE SAW CO. \$1.00. *Circle No. 1307.*

OVER 700 ROUTER BITS—are now available. The all-new 1989 Byrom catalog features 1/4" to 3/4" shank in high speed steel, carbide and carbide tip. Over 20 pages, 80 new items, and over 80 technical drawings. "Industrial Information Kit" includes catalog, price list, promotional items and the name of the dealer nearest you. Dealer inquiries invited. BYROM INTERNATIONAL. \$3.00 (refundable). *Circle No. 1308.*

CARBIDE TIPPED ROUTER BITS AND SHAPER CUTTERS—Over 400 router bits and shaper cutters displayed in catalog featuring 6 piece cabinet sets, 3 piece 1/2-in. shank router bit panel raising system, and 3 wing industrial shaper cutters. An outstanding selection of top quality shaper cutters available in 1/2-in., 1 1/4-in. bore, and router bits offered in 1/4-in. and 1/2-in. shank at the industry's best factory direct prices. CASCADE PRECISION TOOL CO. \$1.00. *Circle No. 1315.*

THE 16-PAGE COLOR—Choice Precision Tool Catalog offers 350 carbide router bits available in 1/4" or 1/2" shanks. Also included are 48 carbide shaper cutters. Router table and router accessories are available as well. Send today for your catalog. CHOICE PRECISION TOOL. 50¢. *Circle No. 1317.*

CUTTING TOOLS MADE TO PERFORM—A set of three colorful posters from DML will decorate your woodworking shop and give you fast reference to a complete line of carbide-tipped, industrial-quality cutting tools. Saw blades, router bits and shaper heads (with a diagram of each cut) are all featured with a graphic display of each tool, along with tool capabilities and sizes. DML, INC. \$1.50. *Circle No. 1319.*

WOODWORKING TOOLS—Freud provides the finest in hand tools, carbide cutting tools, and hand held power tools. From drills and sanders to carbide saw blades and router bits. Send for catalog. FREUD. \$1.00. *Circle No. 1321.*

PRODUCTION QUALITY CARBIDE TIPPED ROUTER BITS—MLCS Ltd. offers a full line of professional production quality carbide tipped router bits at 50-70% lower than retail prices. We sell through the mail and only direct to craftsmen. Send today for information. MLCS LTD. Free. *Circle No. 1350.*

SAW BLADE VALUES—Olson Saw's unique "furniture band" is specifically designed to provide fast, smooth cuts in all types of wood. Included in Olson's free literature package are a huge list of resin on resin abrasives and carbide tipped circular saw blades in addition to a growing selection of band scroll (incl. pinned), jewelers and spiral saw blades. OLSON CATALOG SALES. Free. *Circle No. 1365.*

BANDSAW BLADES—from quality American made stock. Carbon and bi-metal stock are available for wood and metal cutting. Blades will not break when flexed back and forth a couple times. Send for literature. STEVE'S SHARPENING. \$1.00. *Circle No. 1376.*

HARDWARE/WOOD PARTS

OUR READY TO ASSEMBLE KITS—for Queen Anne chairs and occasional tables make it easy for you to make professional looking furniture. We also stock individual Queen Anne legs for every project. Complete information in our brochure packet. ADAMS WOOD PRODUCTS. 50¢. *Circle No. 1401.*

SPECIALTY WOODEN PARTS—Hundreds of turned wooden parts in maple, birch, oak, cherry, walnut, and colors for toys, furniture, games, and crafts. Included are Shaker pegs, mug pegs, gallery spindles, wheels, axles, balls, finials, smokestacks, plugs, buttons, people, pegs, cargo, game pieces, knobs, handles, candle cups, stool legs. Bulk prices available. Send for color catalog subscription. CHERRY TREE TOYS, INC. \$1.00. *Circle No. 1415.*

HARDWARE CATALOG—A unique 64-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. \$2.00. *Circle No. 1427.*

BRASS FURNITURE HARDWARE—This 36-page catalog shows over 500 items of authentic reproduction hardware from the 1700's and on into this century. This fine quality hardware is a must for the furniture craftsman working on a new project, or the refinisher who needs replacement hardware. HORTON BRASSES. \$3.00. *Circle No. 1430.*

SQUARE DRIVE SCREWS—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 "lo-root" thread design results in superior holding power; and they are heat treated for strength. Sizes from #6 x 1/2" to #12 x 3", with stainless steel, brass plated, solid brass, and zinc plated available. Quantity discounts. Send for literature. McFEELY HARDWOODS. 25¢. *Circle No. 1450.*

WOODWORKER'S SPECIALTIES—64-page catalog of plans and hard-to-find hardware for woodworkers. Dozens of door harp plans, wood toy plans & accessories, including wood wheels. Also wood turnings, brass hardware, canister liners, stencil supplies, & wood cutouts. MEISEL HARDWARE SPECIALTIES. \$1.00. *Circle No. 1455.*

DESIGNER MOULDING—America's most beautiful, hard-to-find genuine wood mouldings add depth and beauty to every room of your house. Hundreds of styles available. Thousands of decorating uses. Prices start at only \$3.50/ft.

FACTORY DIRECT CLOCKS AND FURNITURE

DO-IT-YOURSELF KITS OR COMPLETELY ASSEMBLED AND FINISHED

- Grandfather Clocks
 - Mantel and Wall Clocks
 - Accent Furniture: Curio Cabinets, Chests, Tables, Chairs, Desks, Secretaries...and more!
 - Solid 3/4" hardwoods: black walnut, cherry, oak
 - Heirloom quality
 - Solid brass West German chiming clock movements and dials
 - Easy-to-assemble kits
 - No woodworking experience necessary
- Money back guarantee



**SEND \$1 FOR
FULL-COLOR CATALOG**



**EMPEROR
CLOCK COMPANY**

WORLD'S LARGEST MANUFACTURER OF GRANDFATHER CLOCK KITS
Dept. 3006 Emperor Industrial Park • Fairhope, Alabama 36532 • Phone 1-205-928-2316

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

Name _____
 Street _____
 City _____ State _____ Zip _____
 (PLEASE PRINT)

Unfinished furniture... a beautiful product, a growing business.

The satisfaction of owning your own business becomes even greater when you sell a product you can take pride in. Our showrooms offer fine wood furniture in its natural state. We'll finish it, or provide the customer with the tools and know-how to do it himself.

An excellent retail operation. A satisfying way to spend your time. For franchise information, call Patrick V. Lipka at (800) 333-2402.

Exclusive territories available in major markets east of the Mississippi. Dozens of showrooms in operation, dozens more to come.

**NAKED
FURNITURE**
— Sofas & more®

1099 Jay Street, Rochester, N.Y. 14611



This advertisement is not an offering. An offering can only be made by prospectus filed first with the Department of Law of the State of New York. Such filing does not constitute approval by the Department of Law.



TRUE VALUE for HIGH QUALITY machinery



DUST COLLECT

UFO-102B

- 4 bags. 2 centrifugal.
- 2 filtering
- 3 hose connections
- 3HP motor



12" TILTING ARBOR TABLE SAW

HTS-0012A\$305.00

- With cast aluminum guide rail.
- 3HP motor



SPINDLE SHAPER

SP-0034\$280.00

- 3/4" and 1/2" spindle
- 1HP. with forward and reverse control



POWER FEEDER

SK-303FD\$659.00

- 1HP, 3phases

SK-301FD\$695.00

- 1HP, 1phases

SK-321FD\$429.00

- 1/4HP, 1phases



DRUM SANDER

SK-15DS

- 15" sanding width

SK-20DS

- 20" sanding width

- Two different grit precision contact drum. 3HP sanding motor.
- 1/4HP auto feeding motor



STROKE BELT SANDER

SK-1500BS

- 60" x 21 1/4" sliding table

- 5" sanding belt width

- 2HP motor

ONE YEAR FREE PARTS WARRANTY. WE SPECIALIZE IN CUSTOMER SATISFACTION.

LOBO POWER TOOLS

10922 KLINGERMANN ST # 3
S.E.L MONTE, CA.91733

FREE CATALOGUE. DON'T MISS IT. WRITE OR CALL NOW (818) 350-1096

for 8 ft. lengths. In stock for immediate delivery. Full color catalog. R&R WOOD PRODUCTS CORP. \$1.00. Circle No. 1468.

WOOD TOY PATTERNS — Patterns for all ages including childrens' 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. 1480.

QUALITY AMERICAN-MADE WOOD TURNINGS — such as shaker pegs, spindles, toy wheels, toy parts, craft items, and dowel rods in birch, oak, walnut, and cherry. Send for complete 32-page catalog. WOODWORKS. \$1.00. Circle No. 1490.

INCOME OPPORTUNITIES

AMITY, NATION'S #1 QUALITY FURNITURE RESTORATION CO. SINCE 1971—New product catalog featuring: Complete restoration systems, Hydrocote non-flammable water based stains and finishes, Permafuse repair products, stripping solvents, chemicals and supplies. Amity 1-2-3 wipe-on finishes and much more. Regional workshops in your area. AMITY. \$1.00. Circle No. 1605.

START SMALL BUSINESS WITH NEW SCROLL SAW—the Excalibur precision scroll saw can turn your workshop into a nice profit center. Make toys and puzzles, do intricate marquetry work or detailed cabinet work with these "operator friendly" machines. Hundreds of satisfied users. Dealer opportunities available. EXCALIBUR MACHINE & TOOL CO. \$1.00. Circle No. 1655.

WOODCARVER MACHINES—Make signs in wood, pictures in wood, arts and crafts. Make money the very first day. Use as a small business, hobby money, week-end craft shows. Our machines are template guided, easy to use, table top size. Return \$50 per hour to you. Dust collector, self centering. Visitors welcome. Send for info pack. KIMBALL WOODCARVER CO. \$1.00. Circle No. 1656.

\$20 PER HOUR/PART TIME!—Sell Mason Shoes in your spare time. We'll help you turn Saturday mornings into big money. No risk! No investment! It's easy! Send for free catalog and sales kit. MASON SHOE MFG. CO. Free. Circle No. 1658.

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. 1659.

MASS PRODUCTION FURNITURE REFINISHING—a revolutionary new concept from Master Finishers System™. Totally new, tremendously profitable! The old hand process is now done automatically with Master Finishers Furniture Refinishing Factory. Send for brochure. MASTER FINISHERS. \$5.00. Circle No. 1660.

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 free training; no experience necessary. Free workshop teaches you latest in furniture restoration. You have to see it to believe it! Send for catalog. MINUTEMAN. \$2.00. Circle No. 1661.

BUILDING CONSTRUCTION—Learn how to profit as an independent contractor or save thousands building your own home...with NRI at-home training in Building Construction. 70 lessons, plus over 100 practical hands-on projects cover the full spectrum of construction—from site selection to exterior finishing & landscaping. Send for catalog. NRI SCHOOL OF BLDG. CONSTRUCTION. 25¢. Circle No. 1665.

MISCELLANEOUS

MOTORS, PUMPS, COMPRESSORS!—Also hydraulics, alarm systems, winches. Surplus Center's 108-page catalog offers big savings on equipment. Great for small shops, do-it-yourselfers, etc. BURDEN'S SURPLUS CENTER. \$1.00. Circle No. 1905.

MAKE WOODEN TOYS — Whirligigs, doll houses, classic autos, clocks, music boxes, weather instruments, desk sets, games, crafts & furniture with our plans, parts (hardwood and metal), kits (for all skill levels), books, tools, finishes and supplies. Bulk prices available. Send for 60-page color catalog subscription. CHERRY TREE TOYS, INC. \$1.00. Circle No. 1918.

MAKE WOODEN CLAMPS — Save 60%. Kits and plans for 8, 10, and 12 in. wooden handscrew clamps. Acme threaded steel rods, components, handles and full-sized plans provided. Kits also available with uncut and pre-cut maple jaws. You decide how much you want to save. Also available are hundreds of plans, kits, parts, and supplies for wooden toys and whirligigs in our beautiful color catalog. CHERRY TREE TOYS, INC. \$1.00. Circle No. 1919.

FOLEY-BELSAW INSTITUTES' NEW WOODWORKING CORRESPONDENCE COURSE—for people with the desire to learn how to work with wood and the proper use of tools.

THE SAVINGS COME TO YOU AT:



WOODWORKING WORLD SHOWS

MACHINERY, TOOLS, SUPPLIES FOR EVERY WOODWORKER

THE VIRGINIA SHOW SHOW

January 6-8, 1989
Fri. 5-9, Sat. 10-6, Sun. 10-5
The Norfolk Scope, Norfolk, VA

THE COLUMBUS SHOW

January 13-15, 1989
Fri. Noon-6, Sat. 10-6, Sun. 10-5
Veterans Memorial Hall, Columbus, OH

THE WASHINGTON DC SHOW

February 18-20, 1989
Sat. 10-6, Sun. 10-5, Mon. 10-5
The DC Armory, Washington, DC

THE HOUSTON SHOW

March 3-5, 1989
Fri. 5-9, Sat. 10-6, Sun. 10-5
Pasadena Convention Center, Pasadena, TX

For More Information Call Toll Free M-TH 1-800-521-7623

Woodworking Association of North America - P.O. Box 706, Plymouth, NH 03264 (603) 536-3876

Create over 20 projects using professional plans and tools like a table saw, router with stand, and more...all included with the course. Complete money-back guarantee. Send for details. FOLEY-BELSAW INSTITUTE. Free. Circle No. 1930.

LEARN ALL THE SKILLS—of professional upholstery and refinishing techniques in the comfort of your own home. The Foley-Belsaw Institute system of "hands on" training provides clear, step-by-step instructions in the use of tools and materials on actual furniture "kits"...all included with the course. Complete money-back guarantee. Send for details. FOLEY-BELSAW INSTITUTE. Free. Circle No. 1931.

THE CUSHION CONTOUR SANDER — is a new concept in pneumatic drum sanding. Sanding sleeves are slid over an air bag (inflated with a hand tire pump) on an arbor to mount it between centers on a wood lathe. Drum effectively takes on profiles, curves, and bevels practically eliminating flat spots and chatter marks. INDUSTRIAL ABRASIVES CO. \$1.00 (refunded with first order). Circle No. 1976.

BANDSAW OWNERS — A new tool is now available so you can make or repair any length bandsaw blade in minutes. Our splicer enables craftsmen to make up any length blade from economical coil blade stock quickly and easily. Three models are currently available to accommodate blade widths from 1/4 to 1 1/2 in. The tool comes complete with detailed instructions and supplies. We also carry OLSON bandsaw stock at reasonable prices. Send for literature. NEW MILFORD SPECIALTIES CO. 50¢. Circle No. 2025.

ATTENTION! ANTIQUE RESTORERS! WOODWORKERS! COLLECTORS! AND HOBBYISTS!—This 192-page wholesale catalog is loaded with unique, hard to find items! Includes hundreds of essential antique restoration parts, brass reproduction hardware, oil lamps and accessories, wood parts, caning, basketry, upholstery, and art supplies, wood refinishing products, tools, books, etc. VAN DYKE'S RESTORERS. \$1.00. Circle No. 2077.

UNIQUE GREENHOUSE/SCREENHOUSE IDEA—A gardener's paradise during the winter months, a bug-free screen room during the summer months. That's the concept behind the versatile new Sun-Porch. This two-in-one sunspace features sturdy aluminum framing, 1" shatter-resistant glazing, do-it-yourself assembly, and mounts readily on decks, patios, landscape ties. Color catalog includes models, prices; sent first class mail. VEGETABLE FACTORY, INC. \$2.00. Circle No. 2078.

SERIOUS WOODWORKERS—In our shop we offer the finest: INCA, Jet, Konig, RBI, Ryobi, Virutex, Apollo—Keller, Leigh, Excalibur, Portalign—Freud, Byrom, Onsrud—3M, Watco, Behlen's—Imported and U.S. made hand tools—Hardwoods, domestic & exotic—Veneers—Craft plywoods—Books & magazines—Quality, Service and competitive prices. WOODCRAFTERS SUPPLY CO. \$2.00. Circle No. 2080.

WOODWORKING ASSOCIATION OF NORTH AMERICA — First international association for woodworkers. Benefits include our quarterly magazine *International Woodworking*, specials from selected manufacturers, group health and life insurance, access to the woodworking network. WOODWORKING ASSOC. OF NORTH AMERICA. 50¢. Circle No. 2092.

CARVING SUPPLIES

DECOY AND WOOD CARVERS WISHBOOK—48-page catalog features wide selection of tools and supplies for decoy carvers, wood carvers, wood turners. Chisels, gouges, sharpening stones, precision grinding tools, Freedom tools, Fire Brush burners, pneumatic sanders, glass eyes, pewter feet, patterns, paints, reference books, P. C. ENGLISH, INC. Free. Circle No. 2115.

CARVERS' & ARTISTS' SUPPLIES!—Now you have a sourcebook for the most sought-after supplies for your pursuits! Thousands of decoy carving patterns; kolinsky sable artist brushes; acrylic, alkyd, and oil paint; carving knives and gouges; Fordom & Dremel moto tools; hundreds of moto tool cutters and accessories. New 1989 catalog; 80 pages, over 4500 items! C. J. HUMMUL CO. Free. Circle No. 2130.

WOODCARVING TOOLS — Whittlers and carvers — Warren Tool Co. offers a catalog for you full of whittling and carving hand/power tools, books, stones, wood, and supplies. Since 1927, the finest in woodcarvers tools. WARREN TOOL CO., INC. \$1.00. Circle No. 2185.

WOOD CARVERS SUPPLY INC.—offers you the widest array of wood carving supplies in the USA. We offer products for turning, checkering, cabinet making, log building, instrument making, and more. Everything is backed by a 32-year reputation for service and our famous 30-day money-back guarantee. Send for 2-year subscription to our color catalog. WOOD CARVERS SUPPLY INC. \$2.00. Circle No. 2190.

CLAMPS

MERLE ADJUSTABLE CORNER CLAMP — Quick & easy to use. Fully adjustable from 2 1/2" to 69x69 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.



This VET Did It — and YOU Can Do It Too!

"War injuries left me badly handicapped, but now I'm a financial success as a Locksmith, thanks to your training. Besides, the work is fascinating. If I can do it anybody can." — Glen Johnson, Larned, Kan.

Make Up to \$26.00 an Hour — even while learning!

Train FAST at Home!

Be a LOCKSMITH!

If you enjoy fixing things, you're a "natural" to make hundreds of EXTRA DOLLARS a year in the fascinating business of Locksmithing. Rising crime has increased demand for service a thousandfold. Yet there's only one Locksmith for every 17,000 people!

COLLECT CASH PROFITS ALMOST AT ONCE!

You're "in business" ready to make \$10 to \$26.00 an hour a few days after you begin Foley-Belsaw's shortcut training. Easy illustrated lessons complete with ALL practice equipment PLUS

- ALL TOOLS YOURS TO KEEP
- KEY MACHINE YOURS TO KEEP
- EXPERT PERSONAL ASSISTANCE
- BUSINESS-BUILDING HELP

enable you to get your share of this always-profitable business. Hundreds we've trained are doing it. So can YOU.

MAIL COUPON to discover how Locksmithing can keep the extra money coming in during spare time — or in your own full-time business. Ideal for retirement—good jobs, too.

FOLEY-BELSAW INSTITUTE

6301 Equitable Rd., Dept 11555
Kansas City, MO. 64120

N. Hunt, Wilmington, Del.—"I make \$50 a week extra."

R. Davis, St. Louis, Mo.—"I cleared \$110 last Saturday."

Ed Boyle, Pittsburgh, Pa.—"My business going at top speed. I'm moving to bigger quarters."



MAIL THIS COUPON • NO SALESMAN WILL CALL

FOLEY-BELSAW INSTITUTE
6301 EQUITABLE RD., DEPT. 11555
KANSAS CITY, MO, 64120



Rush FREE book, "Keys to your Future."

Name _____

Address _____

City _____ State _____ Zip _____

THIS DO-ALL PRO KEY MACHINE YOURS TO KEEP!

Can add \$50 to \$100 a week to your income... and doesn't cost you a penny extra!

FREE

WE AREN'T FINISHED...



UNTIL YOU'RE SATISFIED!

Since 1928, WOODCRAFT has been an industry leader in supplying quality products to woodworkers. Our services and guarantee are the best, our quality control program, second to none. Buying from WOODCRAFT gives you that kind of commitment... plus a whole lot more.

Why not give us a try, you won't be disappointed!

To receive a free copy of WOODCRAFT's tool catalog, please call toll free 1-800-225-1153 or write:



WOODCRAFT

Box 4000, Dept. WBH19
41 Atlantic Avenue
Woburn, MA 01888

26 SHOWS IN 1989!

- Free Workshops
- 100 Exhibits • Prize/Drawing

★ **THE WOODWORKING SHOW** ★

machinery
tools—supplies

See the Widest Variety of Woodworking Products All Under One Roof
HUNDREDS OF ITEMS

Machinery • Power & Hand Tools • Supplies

- January 13-14-15 Central Florida
- January 27-28-29 Kansas City
- February 3-4-5 Indianapolis
- February 10-11-12 Colorado
- February 17-18-19 North Texas
- March 3-4-5 Greater Milwaukee
- March 10-11-12 Metro-Richmond
- March 17-18-19 Arizona
- March 31-April 2 No. California
- April 7-8-9 So. California
- April 14-15-16 Tennessee
- April 21-22-23 New England
- April 28-29-30 Chicagoland
- May 5-6-7 Greater Cleveland

... and more!

Seminars by Ian Kirby - Roger Cliffe
- Bob Rosendahl - Rude Osolnik
- and other Master Craftsmen

1-800-826-8257 or 213-477-8521

Call for free brochure 8:30-5 Pacific Time

Save \$1 off reg. \$6 admission with this ad

HORTON BRASSES

Nooks Hill Road, P.O. Box 120J
Cromwell, CT 06416 (203) 635-4400

HORTON BRASSES are authentic
copies of 17th, 18th, 19th & early
20th century pulls



Mfrs. of Cabinet & Furniture
Hardware for Homes & Antiques.
Send \$3.00 for a Catalogue.

Furniture Restoration

Big Money in Small Business

Stripping ★ Repairing ★ Refinishing
Mirror Resilvering ★ Veneering

Earn \$200-\$1000 a day!

At home or in shop ★ Spare time, full
time ★ Men or women ★ Complete
training, no experience necessary
★ Simple, fast, safe, fun.

FREE CATALOG

Send \$2.00 for postage & handling to
MINUTEMAN, INC., Dept. 17,
115 N. Monroe St., Waterloo, WI 53594

FULL SIZE Woodcraft PATTERNS



SIMPLE TO MAKE ★ FUN ★ PROFITABLE

- 125 pattern packet PLUS "Shop Secrets"
- Over 50 "Folk Art" patterns PLUS projects
- 6 enjoyable "Wind-Action" whirligigs
- 100 yard ornaments, animals, birds and more
- 27 toy cars, trucks, train, ferry and more!
- 17 "Show Stoppers" - craft show best sellers

Send \$7.00 per blueprint packet or
choose any 3 FOR ONLY \$14.00.

Fast Service • Satisfaction Guaranteed!

ACCENTS Dept. MA19, Box 7387, Gonic, NH 03867

Catalog of 1000 patterns - \$1.00 (Free with order)

"NEW" COMPLETE SET OF WOODCARVING TOOLS HONED READY TO USE.

#COMBI T-4 \$57.75 PPD
Durable Compact Tool-Box
Included In Offer.
(Not Shown)

Bear NOT Included.



CATALOG \$1.00

NY Residents include sales tax.

Send Check or Money Order to:

WARREN TOOL CO. INC.
Rt. 1 Box 14-A Dept. W
Rhinebeck, NY 12572
(917) 876-7817

"WARREN TOOLS GIVE YOU THE EDGE"

BAND SAW BLADES

WELDED TO YOUR EXACT LENGTH

Complete Band Saw Blade Line
Including Saw Mill Blades

We also carry:

Scroll Saw Blades • Hand Saws
Circular Saw Blades • Hole Saws
Hack Saws • Sanding Belts
Sanding Disks • Router Bits
Files • Rasps • Scrapers

SEND \$1.00 FOR CATALOG or
TO ORDER PHONE OR WRITE TO:

BUCKEYE SAW COMPANY
P.O. BOX 14794
CINCINNATI, OHIO 45250-0794
1-800-543-8664 (Except Ohio)
1-513-621-2159 (In Ohio)



Save Money On Hard To Find Woodworking Supplies

Send For New
68 Page Catalog
Today!

Woodworkers! Save Money! New 1989 68 page
catalog hard to find handtools, veneers, thin and
thick lumber, Basswood carving stock, turning
stock (including spalted bowl blanks!), thin
plywoods and wood laminates, inlays, cane,
doweling, dovetailing jigs, bits, burls, 2 plys,
spindles, hinges, hardware, more! **Hurry!** Send
\$1.00 today for your new 68 page catalog, bargain
starter offers, and 101 piece woodworkers kit
offer at ridiculously low price! Send \$1.00 NOW!

Morgan, W06M31 1123 Bardstown, Lou., Ky. 40204

Where Do Ohio's Serious Woodworkers Shop?

**WOODCRAFTERS
SUPPLY ©**

5331 Sinclair Road
Columbus, Ohio 43229
(Off I-71)

(614) 436-6900

The Basic Woodworking Series Now on Video

INTRODUCTION SET \$34.95 (SAVE \$4.95)

HAND TOOLS: Use of over 45 tools for home maintenance
and woodworking. \$19.95*

HAND POWER TOOLS AND WOOD: Operation of
small power tools. Types, grades, and uses of wood.
\$19.95*

POWER TOOL SET \$49.95 (SAVE \$9.90)

WOOD LATHE: Wood turning, scraping, beads, coves,
shearing and cutting to size. \$19.95*

TABLE SAW: All basic cuts plus setups for panel doors,
chessboards, finger lap joints, etc. \$19.95*

JOINTER AND PLANER: Operation plus combination
tools and advanced techniques. \$19.95*



FREE Safety booklet included with each tape.
* Add \$3.00 shipping per tape. Specify VHS or BETA

DR TRAINING & VIDEO, INC.
P.O. BOX 3539, NAPA, CA 94558

CALL TOLL FREE!!



Learn all about combination machine
woodworking. Free color catalog and other
material available. Tremendous Savings.
Expands your workshop area by 90 percent.

TOOLMAX

1-800-535-4788 USA
1-800-325-8330 CA

GIFT IDEA!

For families who enjoy
and take pride in their homes,
there's no more appropriate gift
than a subscription to
Better Homes and Gardens®
WOOD



WINDOWSILL CAT PATTERNS

12 DIFFERENT PATTERNS
FOR WOOD CUTOUTS
ALL FOR \$6

DAKOTA WIND
DEPT. W29
BOX 866
JAMESTOWN, ND 58402

The Sawmill

FOR WHOLESALE INQUIRIES

EXOTIC AND DOMESTIC HARDWOODS
CUSTOM CUTTING, RESAWING, ABRASIVE PLANING
MUSICAL INSTRUMENT WOODS
EBONIES, ROSEWOODS, MAHOGANIES, PADAUK,
PLUS ALL OTHER EXOTIC WOOD SPECIES

TOLL FREE

800 345-3103

PA RESIDENTS CALL (215) 759-2064

Woodworker's Dream

FOR RETAIL INQUIRIES
NO MINIMUM GUITAR
ORDER KITS

DIVISIONS OF
THE MARTIN GUITAR CO., NAZARETH, PA 18064

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. CRAFT PRODUCTS CO. Free. Circle No. 2320.

A FREE COLOR CATALOG FROM KLOCKIT—details hundreds of clock and wood kits, plans, quartz or mechanical clock movements, dials, hands, tools, and other components for the experienced or beginning craftsman. KLOCKIT. Free. Circle No. 2335.

HOME PLANS

HOME PLANS FOR OUTDOOR LIVING—Finally, a book that has the inside story on home designs for people who want to enjoy the great outdoors. Beautifully illustrated, this 192-page plan book showcases more than 100 houses, each designed to make indoor-outdoor living a real experience. Plans include houses with many of today's most-asked-for features: terraces, decks, porches, balconies, courtyards, sunspaces, atriums, swimming pools, spas, more. Construction blueprints available. HOME PLANNERS, INC. \$10.95. Circle No. 2530.

EARLY AMERICAN HOME PLANS—New 304 page Home Planners book with over 330 houses and plans. Features Gambrel, Salt Box, Cape Cod, Garrison, Southern Colonial and Farmhouse adaptations. Historical notes include a delightfully informative guide to Early American styles. One, 1½, and 2-story houses highlight country kitchens, breakfast, formal dining and gathering rooms. Also, libraries, lounges, sunspaces, clutter rooms. Homes for all budgets. Blueprints available. Satisfaction guaranteed. HOME PLANNERS, INC. \$9.95. Circle No. 2531.

315 ONE-STORY DESIGNS UNDER 2,000 SQ. FT.—An outstanding collection of designs from 864 to 1,997 sq. ft.

Distinctive exteriors of popular design styles and practical, convenient living floor plans. Over 925 illustrations and 192 pages. Homes for restricted and modest building budgets. Feature sections include Tudor, Spanish, French, Traditional and Contemporary houses. Blueprints available. HOME PLANNERS, INC. \$4.95. Circle No. 2532.

CARPETS

QUALITY!—Everyone wants it, but not everyone knows how to recognize it. "Understanding Carpet Quality" is an informative, easy-to-read booklet that helps you identify long-term performance characteristics in nylon saxony carpets. Also discusses how to shop for carpet, how to read and understand carpet warranties. ARMSTRONG. Free. Circle No. 2610.

CEILING

TOF OFF—your remodeling project with a good-looking, functional Armstrong tile ceiling or suspended ceiling. You can choose from a wide variety of patterns, from plain white to decorative to warm "wood" grain. Want peace and quiet? Select an acoustical ceiling. It absorbs a minimum of 45% of the noise striking its surface. Send for color brochure that tells you all you need to know. ARMSTRONG. Free. Circle No. 2710.

FLOORS

SURPRISED—That's what you'll be by the sheer variety of Armstrong no-wax floors—hundreds of patterns and colors to choose from, a wide range of prices, even many you can install yourself. To help you pick the no-wax floor that's right for you, Armstrong has prepared an information packet that explains what you need to know to shop intelligently. Contains planning guides, brochures on most Armstrong lines, and color photographs of beautifully decorated rooms. ARMSTRONG. Free. Circle No. 2810.

FREE 64 PAGE CATALOG



**LOWEST
PRICES**

Let us introduce you and your family to the exciting hobby of clockmaking. It's easy - fun - and a great source for extra income. You'll find our service is fast and friendly, so send for your free catalog today!

(Over 17 years the leader)

Name _____

Address _____

City _____ State _____ Zip _____

KLOCKIT™ Dept. WD19
P.O. Box 542, Lake Geneva, WI 53147

Information

WORTH WRITING FOR

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/foreign)
- Send coupon and remittance to address above
- U.S. FUNDS ONLY
- ALLOW 4-6 WEEKS FOR DELIVERY
- Coupon expires February 20, 1990

WOOD SUBSCRIPTION

1. A 1 year WOOD subscription (6 issues) for \$18.00 (U.S. price) — a \$3.00 savings off newsstand rate. Allow 6-8 weeks for first issue. Canadian price \$24.00. Be sure to include payment with total below. NO FOREIGN ORDERS ACCEPTED ON THIS COUPON; please contact Subscription Dept. directly.

BETTER HOMES AND GARDENS® WOOD MAGAZINE, February 1989

Dept. JFW089
P.O. BOX 5103
Pittsfield, MA 01203-5103

Circle numbers below corresponding to items in this issue.
Please include \$2.00 for handling charge

33.	61.	100.	1017.	1251.	1930.	2320.
41.	76.	565.	1090.	1265.	1931.	2335.
42.	84.	860.	1185.	1350.	2115.	2610.
44.	85.	955.	1241.	1365.	2130.	2710.
57.	99.	975.	1250.	1658.	2250.	2810.

PRICED LITERATURE

Numbers below refer to items on which there is a charge.
Please include proper remittance.

3 \$1.00	155 \$2.00	510 \$1.00	878 \$1.00	1235 25¢	1401 50¢	1665 25¢
4 \$1.00	160 \$1.00	520 \$1.00	879 \$5.00	1240 \$1.00	1415 \$1.00	1905 \$1.00
6 \$2.00	190 \$1.50	525 \$10.00	880 \$2.00	1245 \$1.00	1427 \$2.00	1918 \$1.00
12 \$2.00	310 \$2.00	530 \$2.00	890 \$1.00	1246 \$1.00	1430 \$3.00	1919 \$1.00
47 \$1.00	315 \$1.00	535 \$1.00	900 \$4.00	1248 \$1.00	1450 25¢	1976 \$1.00
51 \$1.00	325 50¢	545 50¢	920 \$1.00	1252 \$2.50	1455 \$1.00	2025 50¢
56 \$1.00	332 \$1.00	578 \$2.00	935 \$2.00	1253 \$1.00	1468 \$1.00	2077 \$1.00
87 \$1.00	340 \$1.00	801 \$2.00	945 \$5.00	1267 50¢	1480 \$1.00	2078 \$2.00
90 \$1.00	345 \$2.00	810 \$1.00	965 \$1.00	1307 \$1.00	1490 \$1.00	2080 \$2.00
93 \$1.00	355 \$8.00	820 \$1.00	1015 \$3.00	1308 \$3.00	1605 \$1.00	2092 50¢
94 \$1.00	370 \$1.00	850 \$1.00	1030 \$1.00	1315 \$1.00	1655 \$1.00	2185 \$1.00
96 \$1.00	390 \$1.00	853 \$2.50	1050 \$2.00	1317 50¢	1656 \$1.00	2190 \$2.00
97 \$1.00	395 \$10.95	855 \$4.00	1060 \$2.00	1319 \$1.50	1659 \$1.00	2530 \$10.95
105 25¢	424 \$1.00	875 \$1.00	1080 \$1.00	1321 \$1.00	1660 \$5.00	2531 \$9.95
112 \$2.00	480 \$1.00	877 \$2.00	1140 \$2.00	1376 \$1.00	1661 \$2.00	2532 \$4.95

Name (please print) _____

Address _____

City _____

State _____ Zip Code _____

I AM ENCLOSING:

\$ _____ for priced items

\$ 2.00 for handling

\$ _____ total remittance

NEW! 3-SPEED STROKE SANDER



**FREE
30 DAY
TRIAL**

SAVES TIME... SAVES MONEY!

Experts agree... a wide-belt stroke sander is the "tool of choice" for panel and long edge sanding... yet this same versatile machine will also handle an endless variety of smaller pieces. In fact, this one low-cost machine can soon become the "sanding center" for your entire shop!

SEND TODAY FOR FREE FACTS!

You'll be amazed at the speed and absolute control this machine can bring to all your sanding projects.

The Model 800 features 3 built-in speeds, a large, 24" x 48" table with automatic elevation and lever-action, traveling pressure platen. Open-ended design accommodates any length of material. Long-lasting belts are 6" x 156".

Designed for years of continuous service, the compact Model 800 (floor space needed is only 3.4' x 6.5') is also ideal for the serious home woodworker!

**PHONE TOLL FREE
1 800-538-4200, Ext. 2128**



**WOODMASTER TOOLS, Dept. YW08,
2908 Oak, Kansas City, MO 64108**

YES! Please rush my FREE INFORMATION KIT and details on your 30-Day Free Trial Guarantee.

Name _____

Address _____

City _____ State _____ Zip _____



WHAT ARE YOU WAITING FOR?

JOIN THE GREATEST WOODCARVING ORGANIZATION IN THE WORLD!!!

Send \$20.00 for a one year subscription (12 issues) to **THE MALLET** magazine or \$2.00 for a sample introductory packet to: The National Carvers Museum, P. O. Box 389, Dept. W, Monument, CO 80132 or use your Visa or Mastercard by calling (719) 481-4737.

BRANDING IRON

WINTER SALE
\$24.00

CALL TOLL FREE TO ORDER YOUR **BRANDMARK**
1-800-323-2570
(ORDERS ONLY)
8:00 - 5:00 EASTERN TIME

Your Satisfaction Guaranteed

- Convenient torch heating
- Solid Brass—lasts years
- 1st line as shown
- 2nd line—19 letters/spaces max.
- ¼" letters
- distinctive border
- Add \$2.50 shipping & handling
- OH res. add \$1.44 tx



• Electric Model available (\$41.95)

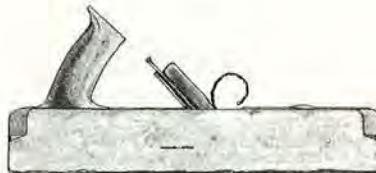


Order by mail from



BrandMark

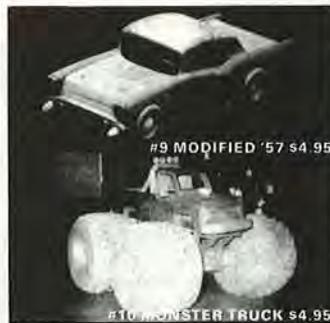
462 Carthage Dr • Dept. W-1 • Beavercreek, OH 45385
513-426-6843



APPALACHIAN HARDWOODS

Beautiful grain and textures. Exceptionally workable. Our Appalachian hardwoods are locally grown, personally selected and kiln-dried... a guarantee of our measure of quality. ■ We handle 21 species of domestic hardwoods, softwoods and hard-to-find imports. ■ Send \$2.00 for our catalogue today (refunded with order). All purchases at delivered prices. **EDLCO**

P.O. Box 5373-A, Asheville, N.C. 28813
For fast service, call 1-704-255-8765

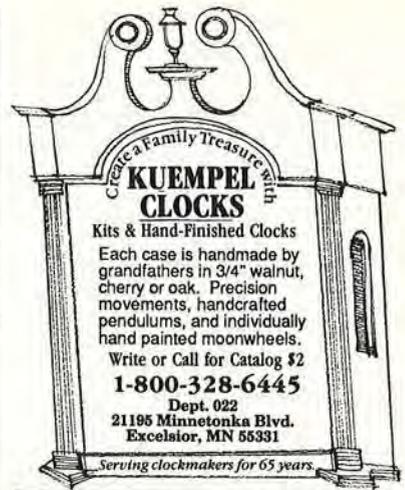


STICKLER FOR DETAIL! At last, an exciting new line of **REALISTIC Wood Block Models** that you can build with your own scrap wood & dowels, and my easy to follow instructions.

MODIFIED '57 measuring over 11" long, 4¾" wide & 3¾" high, includes details of textured bucket seats, deep sunk wheel rims w/ baby moon hub cap, detailed front & rear bumper, hood, and even side pipes.

MONSTER TRUCK measuring over 14" long, 11" high, w/ 6¾" x 4½" monster wheels, 16 shock absorbers, 5 ton military rears, & rear axle supports. Details from engine, transmission, transfer case, & oil pan to K.C. Lights & mirrors.

Send check or money order in the above amount to:
Gatto Plan Supply, Box 1568 Dogwood Dr., R.D. #1
Hamburg, Pennsylvania 19526



KUEMPEL CLOCKS

Kits & Hand-Finished Clocks
Each case is handmade by grandfathers in ¾" walnut, cherry or oak. Precision movements, handcrafted pendulums, and individually hand painted moonwheels.

Write or Call for Catalog \$2
1-800-328-6445

Dept. 022
21195 Minnetonka Blvd.
Excelsior, MN 55331

Serving clockmakers for 65 years.

MAKE MONEY WITH FURNITURE RESTORATION

SAFE, DEPENDABLE, EASY stripping and refinishing systems and products, featuring **HYDROCOTE™** water-base finishes.

AMITY

Quality Restoration Systems

Wisconsin: 608-837-8484
Nationwide: 800-334-4259

WOODCARVER MACHINES

Make:

- SIGNS IN WOOD
- PICTURES
- ARTS/ CRAFTS



PATENTED — TABLE TOP SIZE



T.M. WATSON, M.D.

A.C. WILSON, ATTY.

Signs Any Size or Thickness



MAKE MONEY THE VERY FIRST DAY AS A SMALL BUSINESS, HOBBY, WEEKENDS, CRAFT SHOWS.

\$85 per hour return to you.
Send \$1.00 for info pack.



KIMBALL WOODCARVER CO.

2602-A Whitaker Street - Savannah, Georgia 31401

Visitors Welcome. Call Ahead.

Organize and Protect your copies of WOOD®

Now there's an easy way to keep copies of **WOOD®** protected, organized, and close at hand when you want to reread an article.

Designed exclusively for **WOOD®**, these custom-made titled slipcases and binders are sized to hold two years' issues (12 copies). Each binder and slipcase is manufactured from reinforced board covered with durable leather-like material in spice brown. **WOOD®** is hot-stamped in gold on the spine of each. We include free personalization foil if you care to add indexing by year. Slipcases are V-notched for easy access; binders have special spring mechanism to hold individual rods which easily snap in.

SLIPCASE



BINDER

PRICES

Quantity	Slipcases	Binders
One	\$ 7.95	\$ 9.95
Three	\$21.95	\$27.95
Six	\$39.95	\$52.95

Add \$1 per case/binder postage and handling. Outside USA add \$2.50 per case/binder. (U.S. funds only.) Pennsylvania residents, add 6% sales tax.

CREDIT CARD ORDERS CALL

TOLL FREE 1-800-972-5858

HOW TO ORDER

1. Send name and address (no P.O. boxes please), to: **WOOD® Magazine**, Jesse Jones Industries, Department WD, 499 East Erie Avenue, Philadelphia, PA 19134.
2. Be sure to specify style desired (slipcase or binder) and quantity of each.
3. Enclose check or money order for the full amount including shipping/handling and sales tax (PA residents, add 6% sales tax).
4. If you desire to charge your order to a major credit card (Visa, Master Card, American Express), include card name, number, and expiration date.

SATISFACTION GUARANTEED

WOODCARVING IS FUN & 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 are available starting as low as \$359.00

SEND \$1.00 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. D92
Cashiers, NC 28717
(704) 743-5551



The Discerning Craftsman

CATALOG SHOP



1. THE WOODWORKERS' STORE — A hundred and fourteen pages of domestic and exotic hardwoods, veneers, wood parts, specialty hardware, kitchen accessories, finishing supplies, tools, books, and plans. Catalog filled with hard to find specialties. Orders shipped within 48 hours. Customer satisfaction guaranteed. **WOODWORKERS' STORE. \$1.00.**



2. A distinctive catalog highly devoted to the finest European hand tools. Carving tools, chisels and hard to find wood planes from Europe's most renown manufacturers. Catalog \$2.00. NORTHLAND WOODWORKING SUPPLY.



3. Design it yourself Dust Collection Systems! With our component catalog and duct calculator you can obtain the proper pipe sizing, air volumes, and static pressure requirements for your system. These calculations will then lead you to selecting the correct dust collector for your woodshop. **\$2.50 First Class. MANUFACTURERS SERVICE CO., INC.**



4. Martin's 1833 Shop & Woodworkers Dream Catalog is packed with strings, accessories, Martin memorabilia, books, exotic woods, guitar parts and instrument kits for mail order. The MARTIN GUITAR COMPANY. Cost - \$2.00.



5. The 1988 HILLER HARDWARE CATALOG is a comprehensive collection of tools and accessories for you. Select from the best quality tools in the business at a price only a volume supplier can provide. Power tools, hand tools, cutters, blades and accessories. 24 pages, over 250 tools! **\$1.00.**



6. The 12-page NATIONAL CARVERS MUSEUM Catalog contains woodcarving tools and accessories, books on woodcarving and application for membership to the National Carvers Museum. Send **\$1.00 refundable on first order.**



7. RBindustries offers 6 different models of the Hawk Family of Precision Scroll Saws. American-made Quality at Affordable Prices with patented features such as Camover tensioning, blade suspension system, and many other features make the RBI Hawk the easiest and most versatile scroll saw in the market today! Send for your free catalog now! **RBINDUSTRIES.**



8. McFeely Hardwoods 32 page fall and winter catalog features the incredible square drive screw in steel, solid brass, and stainless steel, router bits, veneers and veneer tape, and other woodworking specialties. **McFEELY HARDWOODS AND LUMBER. Catalog 75¢.**



9. CRAFTPLANS CATALOG—An extensive selection of woodworking plans, patterns and ideas. You'll find so many projects that you simply can't resist making. Plans include furniture, birdhouses, toys, weather vanes, household accessories and more. These great ideas stimulate woodworking creativity. **CRAFT-PLANS 50¢.**



10. Cabinetmakers' tools and supplies. New catalog of fine hand and power tools for cabinet makers and serious woodworkers. Also features hardware, supplies and cutting tools. A must reference for the woodworker. **THE SOURCE Catalog \$2.**



11. Over 1000 Woodcraft Patterns! Create gifts, toys, whirligigs, lawn ornaments, folk art, bird houses and feeders, magazine racks, shelves, children's items, kitchen and household accessories plus much more! Simple enough for the beginner, fun and profitable for the pro. **ACCENTS IN PINE Catalog plus sample pattern only \$2.00.**



12. Known for its quality hardwoods, EMPEROR CLOCK COMPANY offers a broad selection of mantel clocks, wall clocks and grandfather clocks, as well as furniture accent pieces, in do-it-yourself kit form or completely assembled and finished. Send **\$1.00 for color catalog.**



13. 24-page catalog from one of America's larger woodworking tool suppliers—quite different than the first flyer Total Shop sent out back in 1977. This catalog is the best ever and will inform you on the finest woodworking tools available. TOTAL SHOP Catalog Free.



17. World's Leader in Furniture Restoration, MINUTEMAN offers the latest in systems and equipment—best by performance. Earn \$200 to \$1,000 per day stripping, repairing, refinishing, mirror resilvering and/or veneering. No experience necessary. Complete training provided. FREE Furniture Restoration workshop. Catalog \$2.00.



21. Mass production furniture refinishing—a revolutionary new concept from Master Finishers System. Totally new, tremendously profitable! The old hand process is now done automatically with Master Finishers furniture refinishing factory. Send for audio tape and brochure. MASTER FINISHERS \$1.00.



25. Saw blades of all types are offered in our catalog featuring band, circular, hack, hand, jig, and scroll. Abrasives such as sanding belts, disks, sheets, and drums. Plus many other cutting tool items. BUCKEYE SAW CO. Catalog \$1.00.



14. Patterns by Design Group—Toys, Games, Puzzles, Birdhouses, Rocking Horse, Cars, Trucks, and MORE! All patterns are "Same Size" Blueprints. No enlarging necessary. Simply trace and create. Money Back Guarantee. DESIGN GROUP'S fully illustrated catalog \$1.00.



18. The Excalibur T-Slot precision saw fence system is designed to replace rip fence and guide rails on 'new and older table saws. Easily installed, new rip fence system guarantees accurate rip cuts on both right or left hand side of table saw's blade. EXCALIBUR MACHINE & TOOL CO. Catalog \$1.00.



22. Woodcarving machines for both sign carving and decoy, statuary or panel carving are available from MARLIN INDUSTRIES, INC. Sign carving is easy and profitable with a Marlin CM series machine. The machine does the work—you have fun and make the profit. Catalog \$1.00.

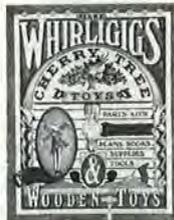
WARREN TOOL CO., INC.



26. WARREN TOOL COMPANY'S Woodcarver's Catalog features the finest quality whittling and carving hand and power tools, books, sharpening stones, wood & supplies. Remember our motto, "Warren Tools give you the edge." We sell only the finest professional tools. Catalog \$1.00.



15. W.S. JENKS & SON has supplied woodworkers for over 120 years. Whether you're looking for the best new woodworking machinery or the finest imported & domestic hand tools, we've got the tools you need. Send \$2 for our latest sale flyers.



19. Make wooden toys, whirligigs, dollhouses, classic autos, clocks, music boxes, weather instruments, desk sets, games, crafts and furniture with our plans, parts (hardwood and metal), kits (for all skill levels), books, tools, finishes and supplies. Bulk prices available. CHERRY TREE TOYS. 60-page color catalog subscription \$1.00.



23. MAKITA U.S.A., INC.—Makita offers a 128-page pocket catalog of their professional line of power tools with special emphasis on the entire cordless line. Free catalog provides complete information along with available accessories and practical applications.



27. 64 pages of project plans for beginning and intermediate woodworkers. We specialize in hard-to-find parts others just don't have. Make door harps, toys, jewelry boxes, country accessories, etc. MEISEL HARDWARE SPECIALTIES. Catalog \$1.00.



16. HAMMERMARK ASSOCIATES 20-page catalog features 33 Country Furniture plans, plus products for workshopers. Our weekend workshop plans can be completed in a weekend or two. Our classic plans are a bit more extensive. Catalog \$1.00 (deducted from first order).



20. Woodworkers—A catalog where you'll find unique accessories that will help you work alone. See how to gain valuable floor area and expand your workspace with ease. All products are of top-quality and "Made in USA." HTC Catalog \$1.00—Refund coupon included.



24. 166 most popular homes. A 112-page book featuring best selling house plans. Over 400 illustrations. An outstanding selection of delightful exterior styles and practical convenient living floor plans. English, French, Spanish, Early American, Contemporary facades. One and two story, multi-level and vacation homes. From 980 to 3,874 sq. ft. Blueprints available at low cost. HOME PLANNERS, INC. \$2.95.



EDUCATIONAL LUMBER CO., INC.

28. EDUCATIONAL LUMBER COMPANY offers you a new catalog of the finest quality domestic and exotic species available. Including turning stock, shorts, veneer, hardwoods and softwoods. This catalog contains over 21 species. The catalog itself is an educational experience! \$2.00.



29. Woodworking tools from WOODCRAFT SUPPLY CORP.—Since 1928, we have searched the world for tools you don't just buy, but adopt tools made by craftsmen for craftsmen, classics of lifetime quality for people who love to work with their hands. Free catalog.



33. Assorted woodworking supplies including dowel pins, candle cups, buttons, needle boxes, wooden fruit, napkin rings, balls, salt & pepper shakers, toy wheels, and many more wood and metal accessories. Write for our free catalog: BENNY'S WOODWORKS.



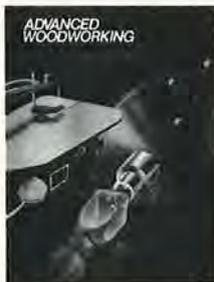
37. Woodworking Tools—Freud provides the finest in hand tools, carbide cutting tools, and hand held power tools. From drills and sanders to carbide saw blades and router bits. FREUD catalog \$1.00.

MLCS

41. Router owners—large discounts. High quality router bits, router speed controller, and the Merle Adjustable Corner Clamp are our only business. Prices 50%—70% lower than elsewhere. Value, quality, and prompt service guaranteed! MLCS Free Information Kit.



30. MANNY'S WOODWORKER'S PLACE is the only catalog devoted solely to woodworking books and videos. Select from over 500 books covering woodworking, woodcarving, furniture making, toy making, tools and machinery, etc. Catalog \$2.00. Each item is discounted and shipping is free.



34. The most complete selection of scroll saw blades, accessories, and improvements for almost any scroll saws. Also includes HEGNER Lathes & Lathe Duplicators, JET Clamps, Workbenches, FELDER Systems and more! Exclusive from ADVANCED MACHINERY IMPORTS LTD. \$2.00 (refundable with order).



38. Catalog of 200 full-size professional plans. Illustrates & describes plans for building fine, museum-quality furniture, including cradles, roll-top desks, tables, chairs, buffets, beds, chests, gun cabinets, rocking horse, children's furniture and more. FURNITURE DESIGNS CATALOG \$2.00.



42. FOLEY-BELSAW'S new Woodworking Correspondence Course for everyone wishing to learn woodworking skills. Create over 20 projects using professional plans & tools like a table saw, router & more...all included with course. Money-back guarantee. Free 30-Day Trial. Free info.



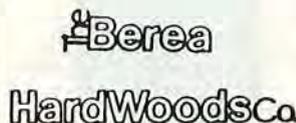
31. A Clamp for every need—to get the best clamps available, you need Jorgensen and Pony clamps from the ADJUSTABLE CLAMP COMPANY. The most convenient way to get Adjustable Clamp's quality is by requesting the L-20 Catalog. You can also order a wide range of hand tools. Catalog \$1.00.



35. "Supergrit" quality sandpaper belts, disc, sheets, drums, and sleeves by mail order at warehouse prices. Small and medium sized buyers can purchase small quantities of quality abrasives at industry prices. (\$25.00 minimum). RED HILL CORPORATION. Free catalog.



39. Full color brochure describes VAUGHAN'S "999" Series professional rip hammers. Heads are fully polished, and feature extra steel behind the striking face, an octagon neck and smoothly swept claws. Available in sizes from 10 to 32 oz. Free catalog.



43. Quality exotic lumber/turning woods. Fine-quality ebony, kingwood, tulipwood, snakewood, African blackwood, cocobolo, bloodwood, figured maple, spalted maple, padauk, etc. Unique and unusual turning wood and buris are also available. BEREA WOODS. Catalog \$1.00.



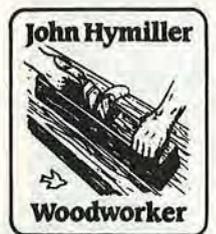
32. BYROM INTERNATIONAL'S 1988 Industrial Router Bit Catalog features over 670 router bits in solid carbide, carbide tipped, and hi-speed steel. The 24-page catalog contains over 125 pictures and technical illustrations. Catalog \$3.00.



36. IN THE WINFIELD COLLECTION, we offer hundreds of country woodcraft designs from old-fashioned St. Nicks, to popular folkart, shaker peg racks, country "dawgs" and felines, household accessories and more. Easy to follow, full-size patterns. Catalog \$2.00.



40. LEICHTUNG WORKSHOPS. Discover your new source for fine woodworking hand tools and hardware, including our exclusive double doweling jig, Denmark's Lervad workbench, Forstner bits and much more for your workshop. Free catalog.



44. European hand tools and machinery. Tired of buying tools, then finding out they're not what you need? Free advisory service to customers. Catalog \$5.00. 3rd generation master craftsman. JOHN HYMILLER, Woodworker.



45. HORTON BRASSES' catalog shows over 500 items of authentic reproduction hardware from the 1700s and on into this century. These are superior reproductions of Chippendale, Hepplewhite, Queen Anne, Sheraton, Victorian and early 1900s brass furniture hardware. Catalog \$3.00.



49. Turn rough wood into smooth board with Penn State's Super 125 Surface Planer. This machine packs the following features into a small package: Two 12½" HSS knives that can plane wood up to 6" thick, 26fpm auto feed rate, and a powerful 115V-14amp motor. PENN STATE INDUSTRIES. Free catalog.



53. GRIZZLY IMPORTS, INC. is a unique mail order company that specializes in wood and metal working machinery. Their full color catalog is loaded with great deals. Free Catalog.



57. WOODWORKER'S SUPPLY OF NEW MEXICO offers more than just the usual line of woodworking tools. You'll find many unique and innovative tools that you won't see anywhere else. Send today to start your FREE 2-year subscription to our full color catalog.



46. 212-page GARRETT WADE catalog with over 2500 selections of the finest tools and finishes. Also valuable reference material on care and use of tools. This premium group of products includes hand tools, books, finishes, stones, benches and turning tools. Power tools and accessories featuring INCA woodworking machinery. \$4.



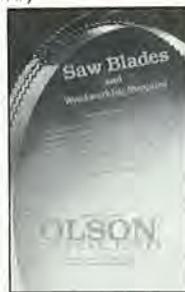
50. SEYCO SALES catalog offers durable, transparent plastic letter guides for scroll sawing, routing, carving, sandblasting, poster layout and woodburning. Catalog also offers Excalibur scroll saws & accessories, Foredom woodcarvers kits & the Mill Route. Catalog \$1.00.



54. 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 are available with 1, 2 or 3 lines of copy or with your logo. \$1.00



58. CONSTANTINE'S complete Woodworkers Catalog offers 116 pages of 150 kinds of veneers, 30 species of hardwoods, specialty woodworking tools and accessories. Hard-to-find hardware, inlays, moldings, cane, books and plans, finishes, etc. \$1.00.



47. OLSON CATALOG SALES offers the finest quality woodcutting blades at significant savings. Band saw blades for any machine, including new woodworker's furniture band, custom cut and welded to length, or in 100' coils. Pinned and plain end scroll saw blades for virtually any scroll saw. Free.



51. Quality handcrafted clocks. Made by grandfathers in solid walnut, cherry or oak. Kits, "from scratch plans" or completely finished. Grandfather, wall or mantel clocks. Hand-painted moon wheels on fine West German movements. KUEMPEL CHIME Catalog \$2.00.



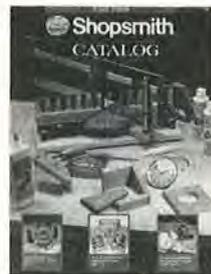
55. Discover a world of musical projects designed for home assembly and finishing. Guitars, Banjos, Psalteries, Harps, Dulcimers, and much more. The finest instrument kits available. Send \$1.00 for catalog. ST. CROIX KITS.



59. The complete woodworking shop. Five tools, power, quick set-up, compactness, versatility, and affordability, at the turn of a knob. TOOL-MAX gives every project that extra added "Edge of Excellence." Catalog \$3.00.



48. Executive wood toys! If you want more in the line of wood toys, let Toys and Joys offer you a line of detailed patterns for classic cars, trucks, trains, etc. We also carry a complete line of wood toy parts. Ask about our deluxe spoke wheels. TOYS AND JOYS Catalog \$1.00.



52. Send for the new SHOPSMITH catalog. It's for all woodworkers! 84 pages filled with a complete line of woodworking items for your shop. Layout, sawing, finishing and more. Plus, a complete education section and all Shopsmith store locations nationwide. \$1.00.



56. LOBO POWER TOOLS—Our lower prices make our fine woodworking machines more affordable for you. We sell a complete line of bandsaws, jointers, planers, drum sanders, shapers, and much much more. All of our machines come with a 1 year warranty. Free catalog.



60. Power tools you can build and save—build sturdy woodworking tools from kits (sold for over 40 years) — 5-year warranty on parts. Simple step-by-step plans with full-size patterns for wood base. Plans and patterns can be purchased separately. GILLIOM MANUFACTURING. Catalog \$1.00.



61. Send for a free information kit describing KITTY machinery and how to buy direct or from one of the growing number of KITTY dealers. "Precision at an affordable price" says WOOD® magazines Guide to Power Tools about the KITTY 618 table saw.



65. Door Harp parts, wheels, spindles, hearts, shaker pegs and dowels are just some of the many turnings you will find in our new "Sketches" catalog. Plus "How to use" ideas. Low prices & fast service! WOODWORKS Catalog \$1.00.

Adams Wood Products



69. Our wood parts make it easy to make professional looking furniture. We feature legs, arms & turned columns for tables, chairs, etc. in styles including Chippendale and Queen Anne plus chairs & occasional tables to assemble & finish. Our woods include walnut, mahogany, cherry & oak. ADAMS WOOD PRODUCTS brochure packet \$1.00.



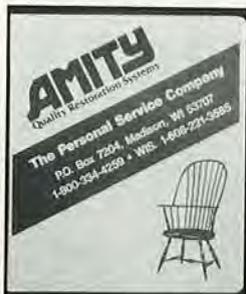
73. 192-page catalog from VAN DYKE'S is packed with restoration material for woodworking hardwoods, veneer, molding, carvings, turnings, tools, finishes and much more! Reproduction brass hardware, wood component pieces, oil lamp parts, caning material. \$1.00.



62. Tools priced to sell! ACME ELECTRIC's 120 page catalog is packed with the finest brand name quality tools, equipment, and supplies for all your woodworking needs. Catalog \$2.00.



66. At last an exciting new line of realistic wood block models that you can build with your own scrap wood and dowels and my easy-to-follow instructions. Highly detailed plans from 50 parts to 250 separate parts. Brochure 50¢. GATTO PLAN SUPPLY.



70. AMITY catalog features restoration systems, stripping chemicals, supplies and equipment. Hydrocote non-flammable finishes. Permafuse repair products. Amity's 1-2-3 wipe-on finishes, mirror silvering systems, and more! Catalog \$1.00.



74. Classic through-dovetail joints cut accurately, quickly and easily. Fast, simple set-up, with beautiful results. Variable spacing, too! For drawers, boxes, giftware and furniture. Warranted 20 years. Three models available from KELLER DOVETAIL SYSTEM, "In a class by itself." Catalog \$1.00.

The Basic Woodworking Series, Now on Video.

63. DRTV presents a home woodshop course on video. See woodworking tricks and techniques at home on T.V. Weekend woodworkers and professionals can learn by watching techniques actually used in this video series. Catalog \$1.50.



67. For the first time ever, BLACK & DECKER is offering its line of Elu woodworking tools in the U.S. — sanders, routers, a power planer and a jointer/spliner — all with a wide range of accessories. ELU WOODWORKING TOOLS by BLACK & DECKER information \$1.00.



71. TOOL CITY's 1987-88 giant 500 page catalog is the most complete mail order catalog. Priced to save you money in all categories. All types of power stationary and portable tools, hand tools and accessories. Send \$5.00 for catalog now! Redeemable with first purchase.

RJS CUSTOM WOODWORKING

75. Full-size plans for fine furniture, home accessories, & toys featuring Plan Plus — the plan complete with hardware & hard-to-find components. All-American Tool Collection spotlights shop-tested USA made tools Catalog \$1.00; refunded/1st order. RJS CUSTOM WOODWORKING.



64. 48-page catalog is filled with tools and supplies for decoy and wood carvers and wood turners including precision grinding tools, sharpening stones, Foredam tools, Fire Brush burners, pneumatic sanders, glass eyes, pewter feet and patterns. P.C. ENGLISH, INC. Free.



68. 1200 tools, patterns, veneers, thick and thin hardwoods, plywood, carving and turning stock. Hardwood bundles shipped UPS. Books, doweling jigs, Dowels, spindles, 2 plys, flexibles, cane, finishes, stain, inlays, edgings, burls, faces, and more! Catalog \$1.00. MORGAN WOODWORKING.



72. Precise wide surface sanding at an affordable price is now available. You select the components to fit your budget and your needs. The Performax S/T Sander attaches to radial saw, to Stand Hardware Kit or the new Pro Stand. Manual Feed or optional Power Feed Conveyor unit can be added. Free brochure: PERFORMAX PRODUCTS, INC.

Cascade Precision Tool Co.

76. CASCADE TOOL COMPANY'S new 12-page catalog featuring over 300 S brand industrial quality carbide tipped router bits and shaper cutters. Best prices are available. The low overhead, factory direct way making our knives the best buy in the industry. Catalog \$1.00.



77. Create an Heirloom with the complete clock builder's guide. Over forty traditional clock kits form \$19.90 to \$1690 plus countless components and plans for clockmakers who want to "build from scratch." Order direct from our factory for the best in quality and service. Free 32-page catalog. CRAFT PRODUCTS CO.



81. Anytime, anywhere, anyhow with the WILLIAMS & HUSSEY moulder-planer. Picture Frames, Crown Moldings, Raised Panels, Curved Moldings, and more. Easy two-minute cutter change-over makes it easy to plane hard woods and cut moldings. Five Year Warranty and Free 30-day Trial. Catalog \$1.00.



82. If you are making toys and other items for craft shows and flea markets, don't overlook our great selection of patterns for rocking horses, toys, cars, clocks and furniture. Specialty supplies, hardware, tools and gift items also available. ARMOR PRODUCTS catalog \$1.00.

SUBSCRIBERS PLEASE NOTE!

WOOD magazine subscribers frequently express interest in products and services that 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 will be beneficial to our subscribers, we firmly respect the wish of any subscriber who does not want to receive it. Should you wish to restrict this, simply send your request to WOOD magazine, P.O. Box 10263, Des Moines, IA 50336, enclosing a current address mailing label. Please be specific as to whether you still wish to receive Meredith Corporation offers or whether you want to stop all offers from any company, including Meredith. We will gladly honor your request.



78. The most comprehensive collection of gazebo plans found anywhere today. 55 gazebo designs, with a variety of styles and sizes to choose from. 1 plan in book, but all are available — average cost \$18.00. Send \$10.85 for book, includes postage. SUN DESIGNS.



79. A gardener's paradise during the winter months, a bug-free screen room during the summer months. That's the concept behind the versatile new Sun-Porch. This two-in-one sunspace features sturdy aluminum framing, 1" shatter-resistant glazing, do-it-yourself assembly, and mounts readily on decks, patios, landscape ties. Color catalog \$2.00. VEGETABLE FACTORY, INC.



80. "Tools On Sale" offers a wide variety of tools for the professional or the do-it-yourself enthusiast. It is packed with some of the most respected names in the industry: Makita, Milwaukee, Skil, B & D, Ryobi, Delta, Bosch and many more. We are noted for our fast service and our friendly, knowledgeable sales people. Free Catalog. SEVEN CORNERS ACE HARDWARE.

The Discerning Craftsman Catalog Shop
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. Please allow 4-6 weeks for delivery. Coupon expires February 20, 1990.

Circle the catalogs you want to receive:

- | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|
| 1. \$ 1.00 | 15. \$ 2.00 | 29. FREE | 43. \$ 1.00 | 57. FREE | 71. \$ 5.00 |
| 2. \$ 2.00 | 16. \$ 1.00 | 30. \$ 2.00 | 44. \$ 5.00 | 58. \$ 1.00 | 72. FREE |
| 3. \$ 2.50 | 17. \$ 2.00 | 31. \$ 1.00 | 45. \$ 3.00 | 59. \$ 3.00 | 73. \$ 1.00 |
| 4. \$ 2.00 | 18. \$ 1.00 | 32. \$ 3.00 | 46. \$ 4.00 | 60. \$ 1.00 | 74. \$ 1.00 |
| 5. \$ 1.00 | 19. \$ 1.00 | 33. FREE | 47. FREE | 61. FREE | 75. \$ 1.00 |
| 6. \$ 1.00 | 20. \$ 1.00 | 34. \$ 2.00 | 48. \$ 1.00 | 62. \$ 2.00 | 76. \$ 1.00 |
| 7. FREE | 21. \$ 1.00 | 35. FREE | 49. FREE | 63. \$ 1.50 | 77. FREE |
| 8. \$.75 | 22. \$ 1.00 | 36. \$ 2.00 | 50. \$ 1.00 | 64. FREE | 78. \$10.85 |
| 9. \$.50 | 23. FREE | 37. \$ 1.00 | 51. \$ 2.00 | 65. \$ 1.00 | 79. \$ 2.00 |
| 10. \$ 2.00 | 24. \$ 2.95 | 38. \$ 2.00 | 52. \$ 1.00 | 66. \$.50 | 80. FREE |
| 11. \$ 2.00 | 25. \$ 1.00 | 39. FREE | 53. FREE | 67. \$ 1.00 | 81. \$ 1.00 |
| 12. \$ 1.00 | 26. \$ 1.00 | 40. FREE | 54. \$ 1.00 | 68. \$ 1.00 | 82. \$ 1.00 |
| 13. FREE | 27. \$ 1.00 | 41. FREE | 55. \$ 1.00 | 69. \$ 1.00 | |
| 14. \$ 1.00 | 28. \$ 2.00 | 42. FREE | 56. FREE | 70. \$ 1.00 | |

Send to:
Better Homes and Gardens®, WOOD
Dept. JFCS89, P.O. Box 5103
Pittsfield, MA 01203-5103

I am enclosing:
\$ _____ for priced items
\$ 2.00 for handling
\$ _____ total remittance

Name _____

Address _____

City _____ State _____ Zip _____

ORDER TOLL FREE 1-800-328-0457 - MAIL ORDER HOURS 7:00-5:30 C.S.T. MONDAY-FRIDAY

DELTA BENCH TOP TOOLS

Model	Description	List	Sale
23-700	Weldry grinder	184	135
23-880	6" bench grinder 1/4 H.P.	78	62
23-880	8" bench grinder 1/2 H.P.	133	99
23-980	10" bench grinder 1 H.P.	240	199
11-950	8" drill press	160	119
14-040	14" drill press	307	235
40-150	15" hobby scroll saw	173	125
28-160	10" hobby band saw	185	129
31-950	1" belt sander 2 amp.	89	69
31-450	4" belt/8" disc sander	173	125

DELTA STATIONARY

Model	Description	List	Sale
34-761	10" unisaw 1 1/2 H.P.	1175	1179
22-551	13" planer 2 H.P.	1586	979
34-429	10" filling sander bench saw	1435	999
	1 1/2 H.P.		
28-243F	14" band saw w/stand, no motor	621	419
33-990	10" radial arm saw	695	539
11-072	32" radial drill press	473	360
37-280	6" motorized jointer	440	319
50-179	3/4 H.P. 2 stage dust collector	435	339
37-154	Deluxe DJ-15 8" jointer w/1/4 H.P. motor	1117	979

BRAND NEW BY DELTA:
 33-550 8 1/4" Sawbuck
 List Price 742 Special Sale 539!!
 34-330 8 1/4" Table Saw 13 Amp
 List Price 321 Special Sale 225!!

MILWAUKEE TOOLS

Model	Description	List	Sale
02241	3/4" drill 4.5A magnum	178	110
02241	1/2" drill 4.5A magnum	159	105
02441	1/2" drill 4.5A magnum	189	105
02211	3/4" drill 3.5A 0-1000 rpm	169	95
02281	3/4" drill 3.5A 0-1000 rpm	154	85
02121	3/4" cordless drill w/spd.	263	149
65391	Cordless screwdriver 190 rpm	138	82
65411	Cdss screwdriver 200-400 rpm	120	72
31821	Plumber's triangle drill kit	295	175
30021	Electricians triangle drill	290	169
5399	1/2" D-hole hand drill kit	299	155
1678-1	H.D. Hole Hwg w/cls	395	235
6511	2 sp SawZall wcls	209	119
6405	8 1/4" circle saw	209	120
6798-1	Drywall gun 0-4000 4.5A	149	89
6798-1	Tek screwdriver	173	85
6226	2 sp bandaw w/case	416	240
6224	TSC bandaw w/case	427	279
6507	TSC SawZall w/case	219	129
6170	14" chop saw	430	295
6102	Orbital sander 3 1/2"x7 1/2"	179	100
6014	Orbital sander 4 1/2"x9 1/2"	184	110
6305	6 1/4" cordless circle saw	259	155
6753-1	Drywall gun 0-4000 3.5A	129	77
8977	Vac. temp heat gun	109	70
02141	3/4" v. spd. cordless drill	220	125
53971	3/4" v. spd. hammer drill kit	227	145
53971-1	3/4" v. spd. hammer drill kit	193	119
3107-1	1/2" v. spd. rt angle drill kit	305	180
6754-1	Drywall gun 0-4000 4.5A	179	115
5232	4 1/4" bandaw w/case	432	275
6741	Drywall driver 0-2500	149	87
0230-1	3/4" drill 0-1700 rpm	169	99
3300-1	1 1/2" v. spd. magnm rt angle kit	289	190
5620	Router 1 H.P. - 8 amp	259	169
5660	Router 1 1/2 H.P. - 10 amp	359	230
15680	Router 2 H.P. - 12 amp	359	230
5455	7 1/4" polisher 1750 rpm	199	125
5535	7" polisher 2600 rpm	209	130
6216	16" chain saw	280	189
8975	Heat gun	85	55
6366	7 1/4" circular saw	198	112
6368	7 1/4" circular saw w/case	226	125
0216-1	2 sp cordless drill H-torque	222	134
0235-1	1/2" drill keyless chuck mag	129	83
6145	1/4 sheet pad sander	75	44
6145	4 1/4" grinder 10,000 rpm	149	95
8960	8 gal weldry vac	205	139
9265	10 gal weldry vac	279	189
0959-1	1/2" drill keyless chuck	189	114
6749-1	Drywall gun 0-2500 4.5A	169	117
6371	7 1/4" worm drive saw	275	155

FREUD SAW BLADES

Item No.	Description	Diam.	Teeth	List	Sale
LUTZM210	Gen. Purp. ATB	10"	40	74.99	34
LUTM1010	Gen. Purp. TCh.	10"	40	76.29	39
LUTM2010	Cut-off	10"	60	98.99	42
LUTM4010	Combination	10"	60	85.36	36
LUTM5010	Super Cut-off	10"	60	126.40	56
LUTM2100	Ripping	10"	24	74.22	31
LUTM3010	Cut off	10"	60	91.16	37
PS203	Gen'l Purp.	7 1/4"	24	31.42	18
PS303	Plywood	7 1/4"	40	37.24	22
DS306	8" Dado - Carbide			162.15	93
DS308	8" Dado - Carbide			205.89	108
F10	1 1/4" x 1/4" Biscuits 1000-City			25	15
F10	2 1/4" x 1/4" Biscuits 1000-City			25	15
F20	2" x 1/4" Biscuits 1000-City			25	15
F4	Assorted Biscuits 1000-City			28	18
WC104	4 pec. chisel set w/case 1 1/4"			39	27
WC106	6 pec. chisel set w/case 1 1/4"			52	36
WC110	10 pec. chisel set w/case 1 1/4"			83	59
FB100	16 pec. forstner bit set 1 1/2"			262	152
SA100	5 pec. router bit set system			260	159
JS100	Biscuit Joiner			265	154

MAKITA CORDLESS

Model	Description	List	Sale
6070DW	3/4" var. spd. rev. 7.2v	123	65
6071DWK	3/4" var. spd. rev. w/removable batt.	190	105
5090DW	3/4" var. spd. rev. saw kit	243	125
5600DW	6 1/4" circular saw	317	167
6010DWK	3/4" cordless drill kit	155	89
6010SDW	3/4" cordless drill	103	58
DA3000DW	3/4" angle drill	238	130
4380DW	9.6 volt cods. recip saw kit	218	122
6010DL	3/4" drill w/flashlight	198	113
6012HDW	2 sp. driver drill		
	w/ clutch & case	224	109
6710DW	Cordless screwdr kit	175	103
6092DW	Vspd. & case	237	117
6093DW	Vspd. w/ clutch & case	248	119
6810DW	Drywall gun 0-1400	225	120
DK1001	6010 DWK drill kit comp. & 4"PD vac. cleaner	178	115
63200T-4	9.6V cordless drill	49	28
63200T-2	7.2 volt battery	42	27

Model	Description	List	Sale
5007NBA	7 1/4" saw w/elec. brake	219	127
5008NBA	8 1/4" saw w/elec. brake	257	145
804510	Sander	97	48
99008	3"x21" belt sander w/bag	254	139
992408	3"x24" belt sander w/bag	260	145
9035	1/2 sheet finish sander	100	58
90458	1/2 sheet finish sander	204	116
90458	1/4 sht fin. sand. w/bag	206	117
4200N	4 1/4" circ. saw 7.5 amp	210	111
5201NA	Orb. v. spd. 12 amp	509	300
4301BV	Orb. vsp. jig saw 3.5 amp	268	145
JR3000WL	2 sp recip saw w/case	217	122
JR3000V	Vs. recip saw w/case	228	125
LS1020	New 10" mitre saw	458	229
3629-2	Blade sharpener	336	199
419	Dust collection unit	458	229
3705	Offset trimmer	240	132
19008W	3 1/4" planer w/case	210	115
1100	3 1/4" planer w/case	381	185
92075PC	7" sander-polisher	276	139
3601B	1 1/4 H.P. router	228	125
3700B	1 1/2 H.P. trimmer	170	92
9501B	4" grinder	137	65
304530	8" round sander	102	57
804550	1/4 pad sander w/bag	95	46
DA300R	3/4" angle drill	234	133
DP4700	1/2" vsp. w/elec. 4.8 amp	192	109
6300LR	1/2" angle drill w/elec	316	176
2708W	8 1/4" table saw	432	258
2711	10" table saw w/bake	728	460
GV5000	Disc sander	120	67
88000B	2500 rpm 3.5 amp	154	77
88000BV	0-2500 rpm 3.5 amp	154	87
6801DB	4000 rpm 3.5 amp	154	80
6801DBV	0-4000 rpm 3.5 amp	154	88
2030N	1/2" orbital sander	2836	1579
2040	15 1/4" planer	2358	1379
18058B	6 1/4" planer kit w/case	609	340
JV1500	var. speed jig saw	209	127
JV2000	var. speed orb. jig saw	230	137
50058A	5 1/4" circular saw	202	115
5633BH	4 1/2" sander-grinder	153	83
DP2720	3/4" drill rev. 0-1800 rpm	104	55
6013LR	3/4" drill rev. 0-1500 rpm	153	72
6013LRV	3/4" drill rev. 6 amp	224	125
5422A	6 1/2" circular saw - 12 amp	500	325
36128R	3 H.P. plunge router	354	179
9401	4"x24" belt sander w/bag	302	162
3620	1 1/4 H.P. plunge router w/case	180	97
4302C	Vspd. orb. jig saw	272	155
50718	7 1/4" Hypoid saw	624	419
LS1430	1 1/4" Mitre saw	624	419
2414	1 1/4" cut-off saw AC/DC	305	195
5007NB	7 1/4" circ saw 13 amp	196	114
36128	3 HP plunge router sq/b	354	179

DELTA TOOLS

Model	Description	List	Sale
34-410	Table Saw Complete w/1 1/2 H.P. motor & stand	579.00	
33-150	8 1/4" Saw Buck	499.00	
28-243S	14" Band Saw w/ropen stand, light attach. 1/2 H.P. motor	479.00	
28-283F	14" Band Saw w/encloused stand & 1 H.P. motor	599.00	
43-122	L. Duly Shaper w/stand & 1 H.P. motor	499.00	
17-900	18 1/4" Floor Drill Press	289.00	
40-601	18" Scroll Saw w/stand and blades	679.00	

SKIL SIZZLERS

Model	Description	List	Sale
5510	(551) 6 1/2" circ saw	112	92
5625	(562) 6 1/2" circ saw	115	110
5655	(565) 7 1/4" circ saw	132	103
5665	(564) 8 1/4" circ saw	204	119
5750	(807) 7 1/4" circ - drop foot	188	115
5765	(808) 8 1/4" circ - drop foot	216	130
5790	(810) 10 1/4" circ - drop foot	400	229
5825	(387) 6 1/2" worm saw	229	139
5865	(825) 8 1/4" worm saw	250	149
4580	Vari - orbit jig saw w/case	144	82
3810	10" Mitre saw	263	169
595	3"x21" sander w/bag 5.5A	197	125
7565	1/4" palm sander	52	34
7213	3x18 belt sander 4.5A	72	58
77	7 1/4" worm drive	230	132
77-50	7 1/4" worm drive "Gold Edition" w/carbide blade	271	137
5350	2 1/4 HP circ saw	80.99	69
5250	2 1/4 HP circ saw	88.99	69

XTRA SPECIAL BY SKIL

MODEL 2735-94-12 VOLT V/Spd. Cordless Drill complete w/case and 2 Batteries
 List \$210.00 - Sale \$118.00

LEIGH DOVETAIL JIGS

DI2558-12 - List \$14.00 - Sale \$250.00
 DI2558-24 - List \$75.00 - Sale \$285.00

HITACHI 15" MITRE SAW

C-15FB List \$30.00 Sale \$89.00

FREUD 15" CARBIDE BLADE

106 Tooth LUTM5M15 List \$181.00 Sale \$115.00

PIRANHA By Black & Decker

Model	Diameter	#Teeth	List	Sale
73-756	6-1/2"	36	26.90	16.30
73-717	7-1/4"	18	11.72	7.30
73-737	7-1/4"	24	14.92	9.00
73-757	7-1/4"	40	27.40	16.35
73-758	8"	40	39.90	24.15
73-759	8-1/4"	40	40.68	24.60
73-739	9"	30	29.52	

A WOMAN'S TOUCH

In do-it-yourself furniture refinishing, women take the scraper in hand almost as often as men. According to refinishing expert Homer Formby, a nationwide consumer survey of almost 3,800 people showed that 46 percent of home refinishers were women, 54 percent men.

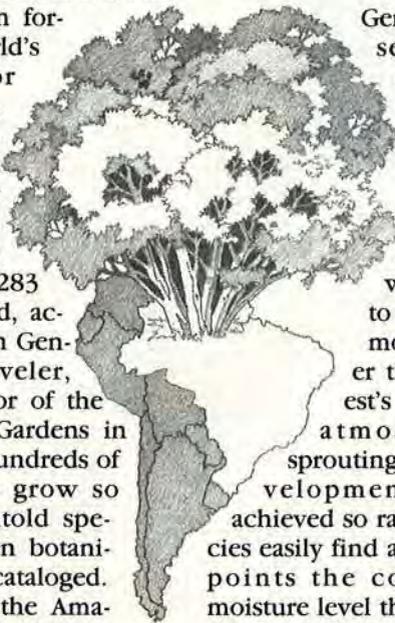
THE RIGHT WAY

The late Eric Sloane, in his book *A Reverence for Wood*, notes that the Shakers religious sect, which specialized in woodworking, believed anything going to the left ungodly. The lap ends of their round boxes always turned right, and their furniture (shown *right*), he says, was a masterpiece of "right angles."

A TREE SMORGASBORD

South America's rain forests rate as the world's lushest habitat for trees. For instance, one particular 2½-acre patch of forest in the Amazon River basin near the border of Brazil and Venezuela contains 283 species of trees! And, according to Dr. Alwyn Gentry, rain-forest traveler, biologist, and curator of the Missouri Botanical Gardens in St. Louis, there are hundreds of such places. Trees grow so abundantly that untold species have never been botanically classified and cataloged.

Why do trees in the Amazon grow so prolifically? Dr.



Gentry says there are several widely accepted theories for their profuse growth. Among them, one has it that the region's nonseasonal, greenhouse-type weather allows trees to specialize (develop more species). Another theory cites the forest's unusual, dynamic atmosphere—quick-sprouting new growth, development, and maturity achieved so rapidly that new species easily find a niche. A third pinpoints the consistently high moisture level that reduces stress so all plants thrive.



The Shakers applied religious principles to woodworking. Their designs featured right angles and simple lines.

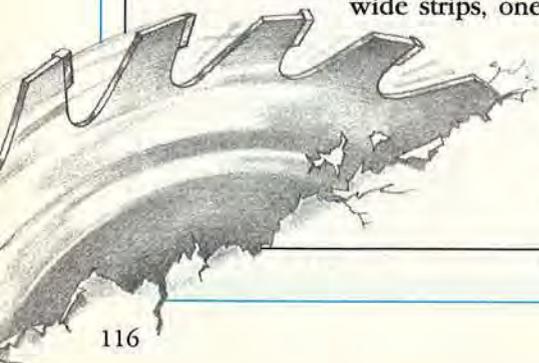
HOW TO MAKE SAWDUST

New-car testing results in collision damage. New saw-blade testing results in sawdust—lots of it!

Before Disston put the carbide, variable-tooth Tiger Force circular saw blade on the market, they matched it against other brands in a marathon saw-off. Four-by-eight sheets of ¾" particleboard were reduced to 1"-wide strips, one

cut at a time. After a month's worth of cutting, each blade had gone through 28,000 linear feet of board—adding up to more than 5 miles! "The shop," said a spokesman, "was always buried in about 6" of sawdust."

An independent testing lab worked with Disston on the comparative sawing project. According to test figures published by the saw company, the Tiger Force beat Black and Decker's Piranha, Omark Industries' Cuda, and Vermont American's Laser X2 in both initial cutting speed, cutting speed after 28,000 feet, and smoothness of cut.



CALLING ALL CARVERS

Of all the reader questions we receive, one of the most frequent asks: "Where can I meet other carvers?" We know of many carving clubs across the country, but there are plenty we haven't heard about. Will you help us? If you belong to a carving club, send us the name of the club, tell us its size, and give us the name and address of the president. Write: Carvers, WOOD® magazine, Locust at 17th, Des Moines, IA 50336. As a thank-you, we'll send you two full-sized patterns. In case of multiple responses from the same club, the earliest postmark applies. The compiled club list will help lonely carvers we hear about! 🌲

Illustrations: Jim Stevenson Photograph: Bob Calmer

MAKITA'S NEW CORDLESS DRILL LETS YOU THINK SMALL.

You don't have to be built like a tight end to tackle a Makita 6040DW. At a mere 1.8 lbs., this lightweight drill is in a class of its own featuring a slim handle even the lady of the house can get a grip on.

With a 4.8V built-in power cell, the 6040DW combines the cordless convenience you've come to expect from a Makita cordless power tool with enough power to take on the toughest task. And with the compact 6040DW, arm strain from boring holes in tight spots or hard-to-reach places is less of a problem.

A built-in overload protector helps prevent motor damage and for ease of operation, the 6040DW comes equipped with the added convenience of a reversing feature.

Proof that big things can come from small packages.



Joe Caravello, Tight End, Washington Redskins
1988 Pro Football Arm Wrestling Champion

Makita
IT'S ALL THE POWER YOU NEED.™
Makita U.S.A., Inc., 14930 Northam St., La Mirada, CA 90638-5753, (714) 522-8088

A GREAT DEAL MORE *Sale!*



\$1666*

5 HP, 3 Ph
3 HP, 1 Ph



\$1499*

5 HP, 3 Ph
3 HP, 1 Ph

Not since the late 1970's have Powermatic's prices on the 66 TA Saws and 26 Shapers been so low! On machines that deliver a *great deal more* features than the competition's.

Rugged cast iron construction. Massive key components. High resale values.

For even more value, Powermatic now offers these machines in 5 horsepower, single phase — an industry exclusive!

And a *great deal more* than just low cost, you'll get the Powermatic quality you've come to expect.

Call us now for an exceptional value you can't afford to miss. 1-800/248-0144.

66 TA Saws		26 Shapers	
5 HP - 1 Ph	\$1766*	5 HP - 1 Ph	\$1599*
2 HP - 1 Ph	\$1459*	2 HP - 3 Ph	\$1399*
2 HP - 3 Ph	\$1489*	2 HP - 1 Ph	\$1399*

*Suggested consumer price

Better By Design™
POWERMATIC 

A Division of Stanwich Industries, Inc.
McMinnville, Tennessee 37110

800/248-0144 615/473-5551 TELEX - 554455 FAX # 615/473-7819