

FREE!
PULLOUT PATTERN

INSIDE: DOUBLE TOOL REVIEW



WOODWORKER'S JOURNAL

Volume 25
Number 3
June 2001

Benchtop Planers

- Top features
- Top quality
- Top value

Miter Saws

The *next* generation

A pro's secret to foolproof finishing

PLUS PLANS!
PRAIRIE CHAIRS
GARDEN BENCH



www.woodworkersjournal.com



Grizzly Industrial

Your Trusted Friend Since 1983!

- FAST SHIPPING!
- FRIENDLY SERVICE
- 2 QUALITY CONTROL OFFICES OVERSEAS
- TRAINED ENGINEERS ON STAFF AT EACH LOCATION
- OVER ONE MILLION PARTS IN STOCK AT ALL TIMES!
- NO DEALERS, NO MIDDLEMEN - BUY DIRECT & SAVE!

12 1/2"

PORTABLE PLANER

- MAX. CUTTING WIDTH: 12 1/2"
- MAX. CUTTING DEPTH: 1/8"
- H.S.S. KNIVES
- FEED RATE: 25 F.P.M.
- ON/OFF TOGGLE SWITCH
- MAX. CUTTING HEIGHT: 6"
- MIN. BOARD THICKNESS: 3/16"
- CUTTERHEAD R.P.M.: 8,540
- 57 CUTS PER INCH
- 2 H.P., SINGLE PHASE MOTOR, 110V, 15 AMPS
- APPROX. SHIPPING WT: 85 LBS.



FREE! 700 LB. CAPACITY TOOL STAND!



G8794 \$279⁹⁵

WITH STAND

\$20 ANYWHERE IN LOWER 48 STATES

Free Stand with purchase of G8794 (a \$54.95 Value!)

15" PLANER WITH CABINET STAND

- MAX. CUTTING WIDTH: 14 1/4"
- MAX. CUTTING HEIGHT: 6 1/2"
- MAX. CUTTING DEPTH: 3/8"
- CUTTERHEAD R.P.M.: 5,000
- 3 H.S.S. KNIFE CUTTERHEAD
- FEED RATE: 16 F.P.M. & 20 F.P.M.
- INCLUDES JACKSCREW & SPRING LOADED KNIFE SETTING
- 3 H.P., SINGLE PHASE MOTOR, 220V
- APPROX. SHIPPING WEIGHT: 540 LBS.



G1021Z \$995⁰⁰

\$115 ANYWHERE IN LOWER 48 STATES

COMBINATION SANDER 6" x 48"- 9" Disc

- CAST IRON TABLE, DISC & BODY
- QUICK BELT-RELEASE MECHANISM
- DUAL VOLTAGE MOTOR, PRE-WIRED FOR 110V
- 3450 R.P.M., 3/4 H.P., 10/5 AMPS
- 2,300 S.F.P.M. BELT SPEED
- BELT DRIVEN
- APPROX. SHIPPING WEIGHT: 120 LBS.



WOOD EDITOR'S CHOICE BEST VALUE

G1014Z \$199⁹⁵

\$48 ANYWHERE IN LOWER 48 STATES

6" x 47" HEAVY-DUTY JOINTER

- TABLE SIZE: 6" x 47"
- HEAVY-DUTY ONE-PIECE STEEL STAND W/BUILT-IN CHIP CHUTE
- RE-DESIGNED FENCE SYSTEM - POSITIVE STOPS @ 45° & 90°
- 1/2" RABBETING CAPACITY
- 3-KNIFE BALL BEARING CUTTERHEAD
- MOTOR: 1 H.P., SINGLE PHASE, 110/220V
- APPROX. SHIPPING WEIGHT: 235 LBS.

INCLUDES A FREE PAIR OF SAFETY PUSH BLOCKS!



G1182ZX \$475⁰⁰

\$48 ANYWHERE IN LOWER 48 STATES

HOLLOW CHISEL MORTISER

- 30 3/4" OVERALL HEIGHT
- ADJUSTABLE DEPTH STOP
- 1/2 H.P. MOTOR, 110 V ONLY
- 6 AMPS, 3,400 R.P.M.
- APPROX. SHIPPING WEIGHT: 50 LBS

Rated "Best Instruction Manual" in a Hollow Chisel comparison by American Woodworker - February 1998

AMERICAN WOODWORKER BEST BUY

G3183 \$225⁰⁰



12" DISC SANDER

- 1 H.P. MOTOR, 110V
- SAFETY TOGGLE ON/OFF SWITCH
- 17 1/2" x 8 1/2" ALUMINUM TABLE
- CAST IRON BASE WITH BUILT-IN DUST PORT

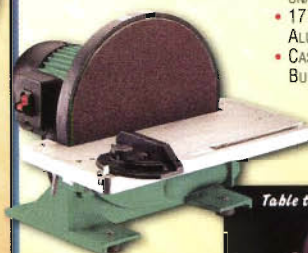


Table tilts from 0° to 45°!

THIS IS A SUPER DEAL!

G7297 REG. \$149⁰⁰ SPECIAL \$129⁹⁵



1 1/2 H.P. SHAPER

- TABLE SIZE: 20 1/4" x 18"
- 1/2" & 3/4" INTERCHANGEABLE SPINDLES
- 3" SPINDLE TRAVEL
- 1 1/4", 3/2" & 5" SPINDLE OPENINGS
- 5" MAXIMUM CUTTER DIAMETER
- MOTOR: HEAVY-DUTY 1 1/2 H.P., 110/220V
- TWO SPEEDS: 7,000 & 10,000 R.P.M.
- SHOWN WITH OPTIONAL WING
- APPROX. SHIPPING WEIGHT: 220 LBS.



G1035 REG. \$449⁰⁰ \$425⁰⁰

\$48 ANYWHERE IN LOWER 48 STATES

12 SPEED HEAVY-DUTY BENCH-TOP DRILL PRESS

- SWING: 14"
- DRILL CHUCK: 3/8"
- SPINDLE TAPER: MT #2
- SPINDLE TRAVEL: 3 1/4"
- SPEEDS: 12, 140-3,050 R.P.M.
- MOTOR: 3/4 H.P., 110V
- APPROX. SHIP. WEIGHT: 160 LBS.

G7943 \$179⁹⁵

12 SPEED HEAVY-DUTY 14" FLOOR DRILL PRESS

- SWING: 14"
- DRILL CHUCK: 3/8"
- SPINDLE TAPER: MT #2
- SPINDLE TRAVEL: 3 1/4"
- SPEEDS: 12, 140-3,050 R.P.M.
- MOTOR: 3/4 H.P., 110V
- APPROX. SHIP. WEIGHT: 172 LBS.

G7944 \$199⁹⁵

Tool Buying Guide Editor's Choice Awarded to G7943, G7944 & G7946



5 SPEED FLOOR RADIAL DRILL PRESS

- SWING: 34"
- DRILL CHUCK: 3/8"
- SPINDLE TAPER (EXT.): JT #33
- SPINDLE TRAVEL: 3 1/2"
- SPEEDS: 5, 550-3,470 R.P.M.
- MOTOR: 1/2 H.P., 110V
- APPROX. SHIP. WEIGHT: 150 LBS.

G7946 \$179⁹⁵

12 SPEED 17" FLOOR DRILL PRESS

- SWING: 17" • DRILL CHUCK: 3/8"
- SPINDLE TAPER: MT #3
- SPINDLE TRAVEL: 4 3/4"
- SPEEDS: 12, 210-3,300 R.P.M.
- MOTOR: 1 H.P., SINGLE PHASE, 110V/220V
- APPROX. SHIP. WEIGHT: 275 LBS.

G7947 \$375⁰⁰

MEDIA CODE

AD1065

333401658

1 FULL YEAR WARRANTY GRIZZLY Power Tool Machinery

1-800-523-4777

CUSTOMER SERVICE:
(570)546-9663
FAX: (800)438-5901

3 SHOWROOM LOCATIONS: BELLINGHAM, WA • SPRINGFIELD, MO • WILLIAMSPORT, PA



Our 2001 Full Color Catalog Features 436 Pages Filled With Over 10,000 High Quality Machines, Tools and Accessories - all at Incredible Prices!
If you are not on our mailing list, **GET ON IT NOW!**

3 WHEEL 12" BANDSAW

**MITER GAUGE
DOUBLES AS A
RIP FENCE!**

- VARIABLE BLADE SPEED UP TO 2,300 F.P.M.
- MAXIMUM CUTTING HEIGHT: 4 3/4"
- THROAT DEPTH: 12"
- MOTOR: 3/4 H.P., 110V, 4.5 AMP, 14,000 R.P.M.
- TABLE SIZE: 13 1/2" x 13 1/2"
- TILTS TO 45°
- BLADE LENGTH: 62"
- APPROX. SHIPPING WEIGHT: 38 LBS.



**TOOL
BUYING GUIDE
Editor's Choice**

**G8976
\$139⁹⁵**



Grizzly CORDLESS POWER TOOLS BEAUTIFUL HARD CASE INCLUDED!

**YOU CAN'T FIND BETTER CORDLESS
POWER TOOLS FOR A LOWER PRICE!**



**18V 5 1/2"
CORDLESS
SAW KIT
G8598 \$89⁹⁵**



**14.4 V, 3/8"
CORDLESS
DRILL KIT
G8595 \$54⁹⁵**



**18 V, 3/8"
CORDLESS
DRILL KIT
G8596 \$69⁹⁵**



**18 V, 1/2"
CORDLESS
DRILL KIT
G8597 \$89⁹⁵**

OUR DRILLS ARE BUILT WITH JOHNSON MOTORS, JACOBS® CHUCKS & PANASONIC® BATTERIES

14" BANDSAW

- CUTTING CAPACITY / THROAT: 14 1/4"
- MAXIMUM CUTTING HEIGHT: 6 3/4"
- TABLE TILT: 45° RIGHT, 15° LEFT
- BLADE SPEEDS: 2,500 AND 3,350 F.P.M.
- BLADE SIZE: 98" (1/2" TO 3/4" WIDE)
- MOTOR: 1 H.P., TEFC, 110V/220V, SINGLE PHASE
- APPROX. SHIPPING WEIGHT: 165 LBS.

**COMES COMPLETE WITH A
1 1/2" BLADE, RIP FENCE AND
MITER GAUGE!**

**G1019Z
\$335⁰⁰**

**\$48⁹⁵
ANYWHERE IN
LOWER 48 STATES**



1 H.P. DUST COLLECTOR

- PORTABLE BASE SIZE: 15" x 25 1/2"
- NUMBER OF 4" INTAKE HOLES: 1
- AIR SUCTION CAPACITY: 500 C.F.M.
- MOTOR SIZE: 1 H.P., SINGLE PHASE
- MOTOR AMP DRAW: 14 AMPS (AT 110V)
- APPROX. SHIPPING WEIGHT: 79 LBS.

**VOTED BEST NEW TOOL FOR
1999 IN THE SINGLE-STAGE
DUST COLLECTOR CATEGORY BY
POPULAR WOODWORKING MAGAZINE!**

**G8027
\$129⁹⁵**

**\$20⁹⁵
ANYWHERE IN
LOWER 48 STATES**



SHOP FOX® ROLLER TABLE

Use these versatile roller tables wherever you need extra workpiece support. Features all-steel welded construction and measures 19" x 65" long. Comes with 9 ball bearing rollers and has four independently adjustable legs for any leveling requirement. Adjustable in height from 26 1/2" to 44 1/4". Approx. shipping weight: 89 lbs.



**G8982
\$129⁹⁵**

**1000 LB.
CAPACITY! \$20⁹⁵
ANYWHERE IN
LOWER 48 STATES**

16" BANDSAW

- MAXIMUM CUTTING WIDTH: 16 1/2"
- MAXIMUM CUTTING HEIGHT: 7 3/4"
- TABLE TILT: 45° RIGHT, 10° LEFT
- BLADE SPEEDS: 2,275, 2,720 & 3,265 F.P.M.
- BLADE SIZE: 113"

- MOTOR: 2 H.P., TEFC, 110V/220V, PREWIRED TO 220V
- APPROX. SHIPPING WEIGHT: 456 LBS.

**COMES COMPLETE WITH A 1 1/2" BLADE,
RIP FENCE AND 2 1/2" DUST PORT!**

**G1073
\$625⁰⁰**

**\$68⁹⁵
ANYWHERE IN
LOWER 48 STATES**



10" HEAVY-DUTY TABLE SAW

- TABLE SIZE W/ EXTENSION WINGS: 27 1/4" x 40 1/4"
- RAIL DIMENSIONS: 44" x 1 1/4"
- CUTTING CAPACITY AT 90°: 3 1/4"
- MOTOR: 1 1/2 H.P., SINGLE PHASE, 110/220V (PRE-WIRED TO 110V)
- APPROX. SHIPPING WEIGHT: 220 LBS.
- MAX. RIPPING CAPACITY: 24"
- CUTTING CAPACITY AT 45°: 2 1/4"



**TOOL
BUYING GUIDE
Editor's Choice**

**G1022SM
REG. \$375⁰⁰
\$325⁰⁰**

**\$48⁹⁵
ANYWHERE IN
LOWER 48 STATES**

10" TILTING ARBOR SUPER HEAVY-DUTY TABLE SAW

- TABLE SIZE W/ EXTENSION WINGS: 36 1/4" x 27 1/4"
- CUTTING CAPACITY: 8" LEFT AND 25" RIGHT OF BLADE
- MOTOR: 3 H.P., SINGLE PHASE, 220V
- ALL SEALED BALL BEARINGS • MAGNETIC SAFETY SWITCH
- COMES WITH SHOP FOX® CLASSIC FENCE
- APPROX. SHIPPING WEIGHT: 360 LBS.



**THE BEST SELLING CABINET
SAW IN THE U.S.!**

**G1023S
REG. \$895⁰⁰
\$795⁰⁰**

**\$68⁹⁵
ANYWHERE IN
LOWER 48 STATES**

**OVER 10,000 TOOLS AVAILABLE ON-LINE!
RECEIVE A FREE GIFT WITH EVERY
ONLINE ORDER (LIMITED TIME OFFER)**

grizzly.com



WHEN WORK THROWS YOU CURVES, GET EVEN.

Introducing The New Portable Oscillating Spindle Sander.



*Includes adjustable edge guide
and vacuum attachment as
standard equipment.*

We've developed a whole new concept in sanding...again.

Now, getting a nice, smooth finish on curved edges has never

been easier. The new Model 121 handles even the most intricate

curves. And its edge guide, with adjustable "infeed" and "outfeed"

fences, makes it ideal for straight runs, too. Either way, you get perfect, 90° edge sanding.

With the tool's variable speed capability, variety of spindle sizes

(from 1/2" up to 2"), and sanding sleeves (from 50 to 200 grit),

you have the flexibility to finish hard and soft woods, laminates,

plastics, solid-surfacing materials and more. Best of all,

it's Porter-Cable quality all the way. To learn more, visit your

Porter-Cable retailer, or call 1-800-487-8665 (519-836-2840 in

Canada) for the dealer nearest you.



*Different spindle sizes
let you finish even the most
intricate jobs.*



*Mounts easily beneath
Porter-Cable and other router tables
for stationary sanding of curves with
the added advantage of using the
fences for straight-edge sanding too.*

*Proud Sponsor of
THE NEW YANKEE WORKSHOP
on Public Television*



PORTER-CABLE
THE WOODWORKER'S CHOICE
WWW.PORTER-CABLE.COM

(Circle No. 68 on PRODUCT INFORMATION form)

Features

May/June 2001

Volume 25, Number 3

48 Prairie Chairs

By Mike McGlynn

Our Arts & Crafts expert evokes the spirit of Frank Lloyd Wright, with stunning results.

30 Curved Garden Bench

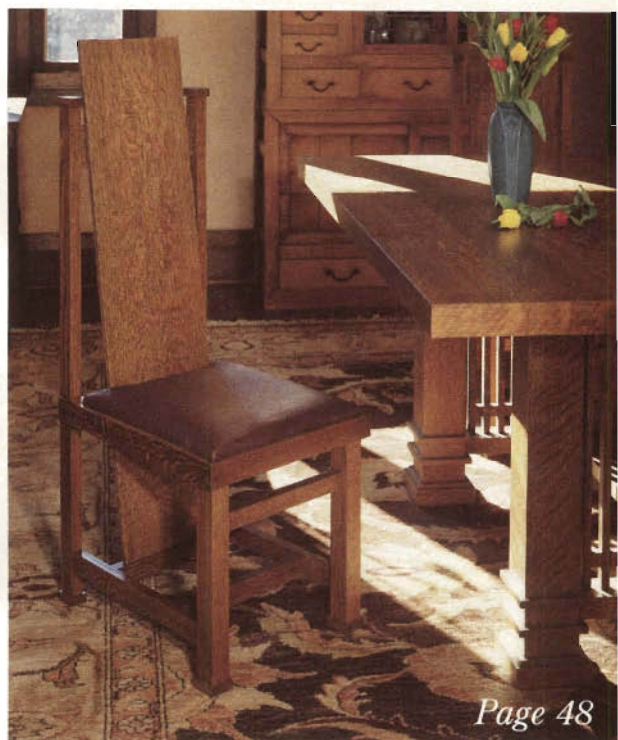
By John Thayer

Curved laminations and joinery influenced by ancient Chinese chairs go into a bench that spends its summers at Martha's Vineyard.

54 Scroll Saw Nameplates

By Tom Durden

Learn new scroll saw techniques through Tom Durden's clever little gift project.



Page 48



Page 54



Page 30

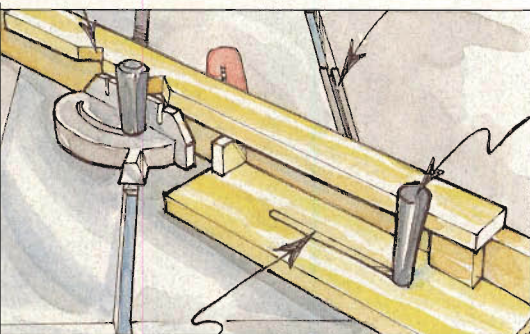
Woodworker's Journal Departments

May/June 2001

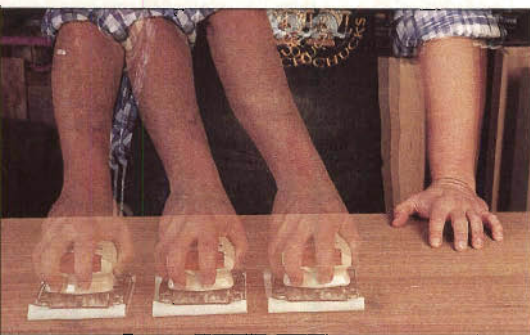
Volume 25, Number 3



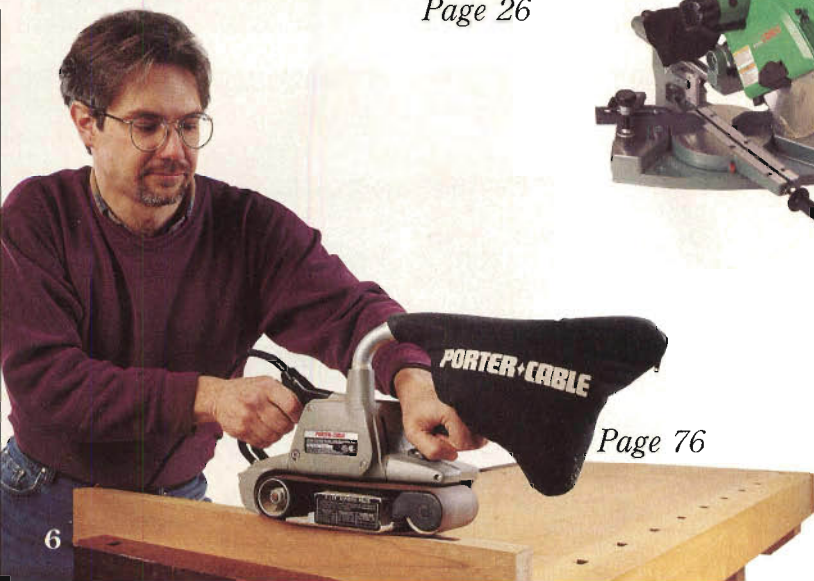
Page 22



Page 14



Page 26



Page 76



Page 24



Page 58



Woodworkers

08 Editor's Note

Planers and sliding miter saws.

10 Letters

Insights on new jigs and old tools.

14 Tricks of the Trade

Use concrete socks for safety.

18 Questions & Answers

Can you preserve cherry's color?
What length can a scroll saw cut?

22 Shop Talk

200 years later, we're still learning
from 18th century woodworkers.

82 Stumpers

Pistol-gripped mystery tool.

Techniques

26 Finishing Thoughts

The secret to the perfect finish:
sanding with the least amount of
effort — but the best results.

30 Curved Laminations in Teak

Plan ahead to shape your seating.

50 Resawing for Beautiful Grain Figure

Simple quartersawn grain becomes
a symmetrical design element.

Tools

58 Tool Review

Sliding compound miter saws.

68 Shop Test

Portable planers: a new generation,
with new features.

76 Shop Journal

Our editor works
his belt sander hard.
Find out how it held up.



78 What's In Store

New tools for making sawdust — and
making it go away!



Shaves time off projects.

Spending extra time on a project because of your passion for wood-working is one thing. Time wasted on mistakes, however, is not acceptable. So use the tools that have the power and features to deliver accurate, reliable results. The first time. Every time. Without question, the RIDGID 13" Portable Planer has everything serious woodworkers demand. For starters, there's a healthy 15-amp Emerson motor, and an extra set of dual edge, quick-change knives.



Sure-Cut: Virtually "snipe" free finishes.

So you'll be plowing through stock, producing mirror-like finishes, not wasting time with nicks or re-sharpening. With Ind-I-Cut™ and Repeat-A-Cut™ you'll know exactly how much

material will be removed, and that every piece exiting the machine is precisely the thickness you want. And there's the Sure-Cut™ mechanism to isolate the cutterhead and minimize snipe, waste and finishing time. So do yourself a favor. Get the only planer backed by The RIDGID Lifetime Warranty. You'll finish your project with far less hassles, and more time to spare.

RIDGID
TOOLS FOR A LIFETIME



Looking Back



Sliding miter saws, like benchtop planers before them, are fast becoming mainstays in today's shops.



I like to take a look back every now and then. When it comes to the *Journal*, that's easy for me, since 25 years worth of issues are an arm's length away. The other day I was looking through our January 1989 issue and came across an article on stationary thickness planers. The ending, which I'll summarize here, surprised me: *"We'd be remiss if we didn't mention portable planers. We do not own, and have never tested these machines, however the only negative criticism we've heard is that they have a tendency to snipe on the beginning and end of boards, a tendency that cannot be eliminated."*

If memory serves, it was Ryobi's introduction of the AP-10 portable planer just a few years earlier (for about \$350) that started the movement away from stationary planers. Now, a little more than a decade later, portable planers are called benchtop planers, snipe has been largely eliminated and home shops without one (at least on the wish list), are getting hard to find.

Later that same year, in the July issue, I came across another interesting article, this time about

radial arm saws. It started out with the truly honest assertion that *"Most woodworkers thoroughly distrust radial arm saws. The saws are so notoriously sloppy that shops often use them only for rough work."*

So, naturally, I started looking for sliding miter saws. It took a few years worth of issues before they started to appear regularly, but today they're probably the most frequent rejoinder to the question "What ever happened to your radial arm saw?" As with planers before them, technological innovations and associated reductions in pricing are bringing sliding miter saws into more and more home shops. That's why **Sandor Nagyszalanczy's** and **Charles Self's** reviews of these tools in this issue should be of such interest. I just wonder what we'll be using in another 15 years ... stay tuned.



You're going to find two great projects in this issue, **Mike McGlynn's** Frank Lloyd Wright-inspired chair and **John Thayer's** incredible curved garden bench, now residing in Martha's Vineyard. Check the Full-size Patterns and Pinup Shop Drawings (back by popular demand) for *Elevation Drawings* and details. At the other end of the spectrum, **Tom Durden** is back in this issue with a scroll saw project filled with some of his favorite techniques.

And if you find yourself in the mood for a little looking back of your own, please, visit our web site. We've got over 1,300 plans posted there now — just about any project idea you might ever need, for a very reasonable fee.

Larry N. Storken

Oops!

Ahh, the wonders of the digital age. In publishing, it sometimes means that the pictures you think you're talking about aren't the same ones your printer thinks you're talking about — and the wrong digital images ends up in the wrong place. That's just what happened in our last issue, where two detail shots from the Ridgid jointer ended up accompanying the JET jointer. Our apologies to both manufacturers.



MAY/JUNE 2001

Volume 25, Number 3

LARRY N. STORKEN *Editor in Chief*

JOHN KELLIHER *Art Director*

ROB JOHNSTONE *Editor*

JEFF JACOBSON *Associate Art Director*

JOANNA WERCH TAKES *Associate Editor*

SIMON WATTS *West Coast Editor*

STEVE HINDERAKER *Photographer*

KRIS KAISER *Graphic Designer*

BOB FILIPCZAK *Online Editor*

ANN ROCKLER JACKSON *Publisher*

JILL ARENS *Circulation Director*

MICHELLE SCRIBNER *Circulation Marketing*

SARAH M. GREER *Advertising Director*

LINDA M. SCHIMKE *Advertising Assistant*

Editorial Advisors

NORTON ROCKLER

STEVE KROHMER

Contributing Editors

MICHAEL DRESDNER

JOHN ENGLISH

MIKE MCGLYNN

RICK WHITE

ADVERTISING SALES

J.F. Van Gilder Company

P.O. BOX 802405, Dallas Texas 75380

DAVID BECKLER david@jvgco.com

MIKE HILL mike@jvgco.com

JIM VAN GILDER jim@jvgco.com

PHONE: (972) 392-1892

FAX: (972) 392-1893

SUBSCRIPTION INQUIRIES

(800) 765-4119 or

www.woodworkersjournal.com.

Write *Woodworker's Journal*, P.O. Box 56585,

Boulder, CO 80322-6585. E-mail:

woodworkersjournal@neodata.com. Include

mailing label for renewals and address changes. For gift subscriptions, include your name and address and your gift recipient's.

BACK ISSUES & REPRINTS

Woodworker's Journal or *Today's Woodworker*

CALL: (800) 610-0883

www.woodworkersjournal.com

Woodworker's Journal (ISSN: 0199-1892),

is published in February, April, June, August,

October and December by Rockler Press,

4365 Willow Dr., Medina, MN 55340.

Periodical postage paid at Medina, Minnesota

and additional mailing offices. Postmaster:

Send all address changes to *Woodworker's*

Journal, P.O. Box 56585, Boulder, CO 80322-

6585. Subscription Rates: One-year, \$19.95

(U.S.); \$25.95 U.S. funds (Canada and other

countries). Single copy price, \$4.95 (U.S.);

\$6.95 (Canada/other countries). Reproduction

without permission prohibited. Publications

Mail Agreement Number 0861065. Canadian

mail distributor info: Express Messenger

International; P.O. Box 25058; London BRC,

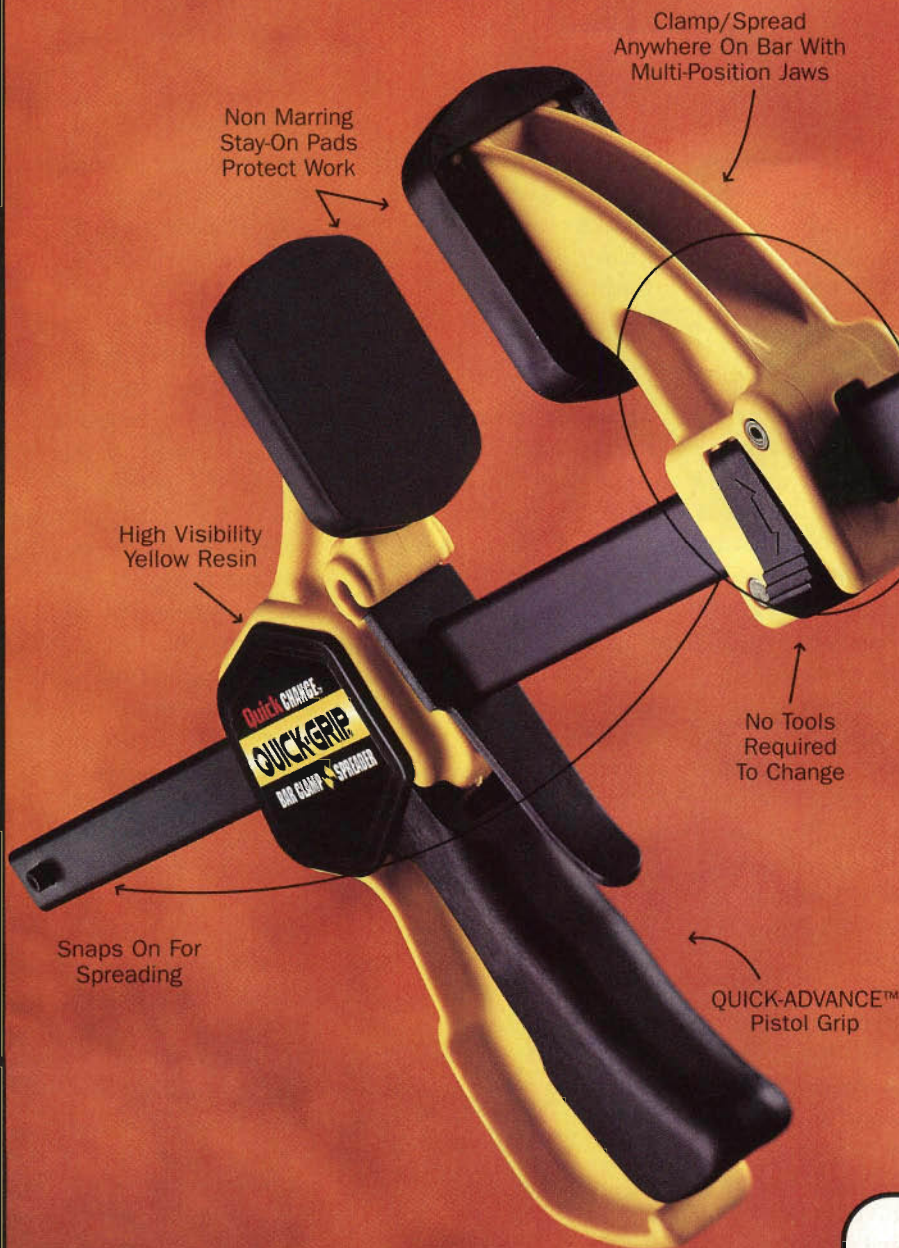
ON; Canada N6C 6A8. Printed in the USA.

WEB SITE: www.woodworkersjournal.com

©2001, Rockler Press, Printed in USA.

Q: IS THIS OUR NEW BAR CLAMP OR IS THIS OUR NEW SPREADER?

A: YES.



The QUICK-GRIP® QUICK CHANGE™

Bar Clamp/Spreader – the new and improved clamp that easily

changes to a spreader



without the

use of tools. Simply unsnap the multi-position jaw,

slide it off, turn it around, slide it on

and voilà, it's a spreader. No

kidding, it's that fast. And with the QUICK-ADVANCE™ trigger, you can clamp or spread faster. Which means you can turn most any task



into half the work because you

hold twice the tool. So, get the clamp that's a spreader from the company that has just re-invented the bar clamp, again.

Quick CHANGE™
QUICK-GRIP®
BAR CLAMP & SPREADER

www.quick-gripclamp.com

Apples to Apples: Test Similar Jigs



Porter Cable's
5116 Jig



Comparing Jigs to Jigs

Reading John English's article on dovetail jigs (*Shop Test*, "Foolproof Dovetails: 3 Superior Jigs," February 2001) reaffirms that one should always keep a grain of salt at hand when reading magazines. He waxes eloquent and wordy, complete with a "my grandfather" quote, about the Leigh D4 machine with a price tag of \$329 and gives a short and not-so-sweet discussion of the Porter-Cable 4112 (\$99.99) jig. This is hardly objective journalism!

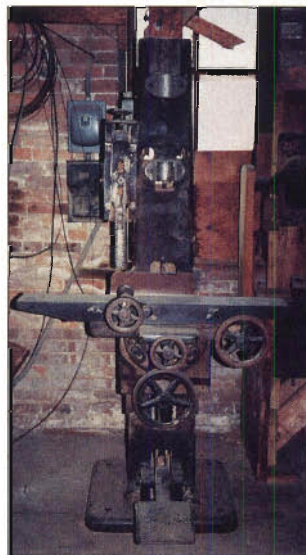
If he had compared an equally priced Porter-Cable Omnijig to the Leigh D4 the comparison would have been more "apples to apples." Take a look at the 5116 [\$315] or 7116 [\$359] Omnijig and you will find results very similar to those experienced with Leigh's D4. I have been using these jigs for a long time and have

been very satisfied with the finished dovetails and other joints they produce, but I have never "lost" my breath over any of them.

*Bill Delancy
Katy, Texas*

Those Old Tools ...

I always enjoy the *Shop Talk* section and was fascinated by the discovery of the old machinery in the Jonesboro building in northeast Arkansas ("Family Shop is a Virtual Time Capsule," February 2001). I think I can clarify a little about the machine shown on page 15, which was referred to as a "foot pedal rip saw." The



machine is (or was) a hollow chisel mortiser, I believe. I say "was," because the original mortising unit appears to have been removed and a chain saw mortising unit mounted on the side of the original casting to take advantage of the mortiser's table.

Originally, a vertical shaft motor unit driving a mortising bit inside of a hollow square chisel was mounted on the upper central casting and was movable up and down by the foot pedal shown. The pedal appears to be disconnected and is lying in the full down position now, so the added-on chain mortiser unit is likely moved up and down by some other means. The remaining table would continue to perform a useful function for mortising by using the material clamp (upper lefthand wheel), allowing left-to-right adjustment (hand wheel on far right), forward and back adjustment (small hand wheel in center), and vertical adjustment (large lower hand wheel).

Chain saw (or just "chain") mortisers never made it into the small shops due to their expense. Factories found them fast and accurate for repetitive production and presumably still use them, although router methods of mortising have likely replaced many of them. The chain mortiser

Mail Call! Contact us by writing to "Letters", *Woodworker's Journal*, 4365 Willow Drive, Medina, Minnesota 55340, by fax at (763) 478-8396 or by e-mail: letters@woodworkersjournal.com. We ask that all letters, including e-mails, include a mailing address and phone number. We reserve the right to edit for length and clarity.



makes a nice rectangular opening, albeit with a rounded bottom.

*Jerry Friesner
Cullowhee, North Carolina*

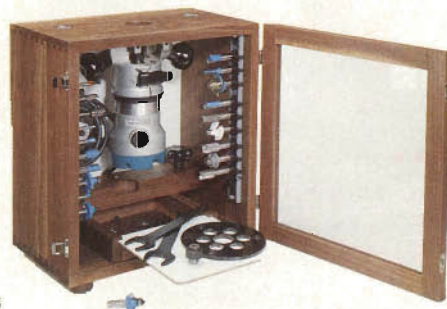
... How They Really Worked

I saw a picture of the post drill in *Woodworker's Journal* (Stumpers, "Drilling Into the Past," February 2001), and it is almost identical to the one I have mounted on a rolling platform stand. Your article stated that the handle on the left is for balance only, but it is not that at all. It backs the drill out of the stock you are drilling. You turn it, the same as the handle on the right, and it reverses the direction of the drill and raises the drill chuck. It has a wheel on top that also raises the chuck. I use it to show off to my friends.

*Joe L. Robnett
Orange, Texas*

Careful With Your Bits

In the February issue of *Woodworker's Journal* ("Traveling Router Table"), one Router-Loc Bit Holder is mounted to the interior of each side panel of the router caddy. This has really got to be an accident waiting to happen. Over time, one would reach in to access the router and it would be like putting your hand through a barbed wire fence. I believe a better solution would have been to build a separate, full panel size, door access compartment on the outside of the side



Reader Enzo Clemente makes a good point about the safe positioning of the router bits in John English's Traveling Router Cabinet.

continues on page 12 ...

ApolloSpray™

Makes Professional Finishing Easy!



- Simple to Use and Clean
- Stainless Steel Fluid Parts
- Factory Direct Technical Support
- Crafted with Pride in The U.S.A.
- Your Satisfaction Guaranteed

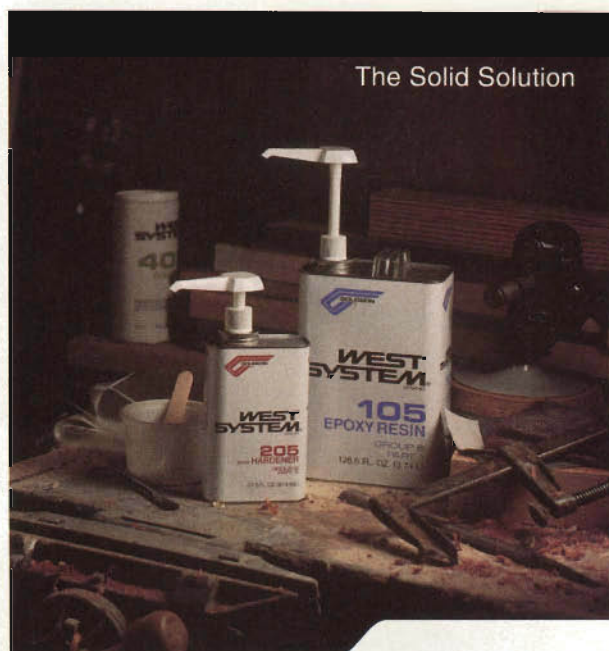


TOLL FREE 800-578-7606

WWW.HVLP.COM

Apollo Sprayers, Inc. • Vista, CA • (760) 727-8300 • FAX (760) 727-9325

(Circle No. 6 on PRODUCT INFORMATION form)



The Solid Solution

WEST SYSTEM®
BRAND

A complete system of resin, hardeners, fillers and additives.

- Choose fast or slow working times
- Easily modified for gap filling
- Excellent water resistance
- Good adhesion to nearly everything

Epoxy products ■ Reliable solutions



Gougeon Brothers, Inc.
989-684-7286
www.westsystem.com

Call today for your free User Manual and Product Guide

(Circle No. 35 on PRODUCT INFORMATION form)

Safety First: Learning how to operate power and hand tools is essential to safe woodworking.

For purposes of clarity, necessary guards have been removed from equipment shown in our magazine. We in no way recommend using this equipment without safety guards and urge readers to follow manufacturers' safety precautions.

panel that would be secured with a door catch. That would add about three inches to the width of the unit as well as the top, and all bits would be out of harm's way.

*Enzo Clemente
Hot Springs, Arkansas*

Heirloom Bookcase

I am enclosing a photo of the "Heirloom Bookcase" which I built from plans featured in your August 2000 issue. It was probably the most challenging project I've built in my eight years of woodworking, but the results turned out great. It was the first time I'd worked with mahogany and, as your

article says, it was a joy to work. A friend said I should be sure to designate which of my four children will receive the bookcase when I pass to the great beyond, or I'll start a real family battle.

I made a few minor changes to your plans. I reduced the carcass sides by 3/4" to make more efficient use of my 4 x 8 sheet of plywood. I also added bullnose molding around the drawers, as I was concerned that the edges of the crotch veneer might chip when opening and closing the drawers.

*David Wagner
Edgerton, Wisconsin*



David Wagner's execution of Rick White's heirloom bookcase design looks as good as the original.

When Only The Best Will Do!

Superior Forstner Bits.
Exacting Tolerances.
Forged Special Steel.
Available in 1/8" & 1/16th"
Increments & Metric Sizes.
Order Individually and in
Sets of 4, 7 and 16.
Lifetime Guarantee.
Dealers are Welcome!



Phone: 724-663-9072
www.fisch-woodworking.com

(Circle No. 32 on PRODUCT INFORMATION form)

FESTOOL

Festo Tooltechnic

for the toughest demands

- Sophisticated Guide System
- Innovative Design
- Reliable German Quality
- Portable
- Uniquely Quiet
- Dust Extractable
- Ergonomic

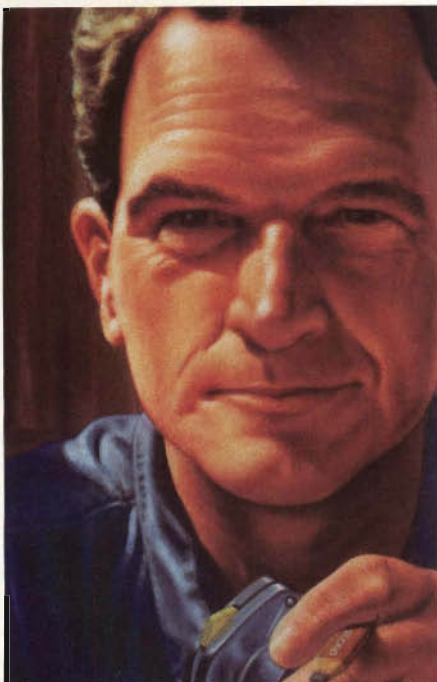
DIRECT CONNECT
888-337-8600
www.festool.com

12 FESTOOL

Contact us for a free catalog.

FESTOOL
Festo Tooltechnic

(Circle No. 86 on PRODUCT INFORMATION form)



**Can you move
several thousand
pounds of shop
machines alone?**

I have the typical garage problem: cars, lawn mower, garden tools, bikes, kids toys, etc. and not enough space to share with my heavy shop machines.

When I mobilized my shop machines and workbench, I created the space I needed to do my projects without sacrificing family storage space.

Have the freedom to move your machines, create an organized, safe and spacious work area, and allow for additional machines with easy shop cleanup.

**You can, with a
mobile base from HTC.**



Call toll-free, **1-800-624-2027**
for your nearest dealer and FREE, full color
Shop Solutions Catalog.

HTC Products Inc.
P.O. Box 839
Royal Oak, MI
48068-0839

©HTC Products, Inc. 2000



(Circle No. 39 on PRODUCT INFORMATION form)



benchdog.com

FREE CATALOG
1-800-786-8902

Panel-Loc is the first
combo hand guard and
panel hold down for
routing panels.

The unique
aluminum shape and
UHMW contact strip places
pressure on the panel in
exactly the right location. It
also protects your hands,
alleviates chatter, reduces
fatigue, and improves results.
Includes a special mounting
t-track for all fences.

PANEL-LOC

Hand Guard / Panel Hold-Down
by Lonnie Bird

NEW!



POWER
ACCESSORY
Patent pending.

(Circle No. 10 on PRODUCT INFORMATION form)

ZAR[®] ULTRA Interior Polyurethane **A Beautiful Finish in 1/2 the Time**



**Great for Floors,
Dries in 2 Hours!**

If waiting for a finish to dry just
won't fly – we have just the right product for you –
ZAR[®] ULTRA Oil-Based Interior Polyurethane. ZAR
ULTRA provides a beautiful, smooth finish in just 2
hours. ZAR's extremely durable formula makes it ideal
for high usage areas, such as floors, cabinets, furniture
and doors.



ZAR ULTRA, the fastest way to a beautiful finish!

For a free brochure and dealer nearest you, call **1-800-272-3235** or visit www.ugl.com

(Circle No. 89 on PRODUCT INFORMATION form)

Cement Shoes for a Tippy Roller Stand

Concrete Socks

I often need to rip long, pine boards, which necessitates using adjustable roller stands. These tend to be light and easily knocked over, so I added a concrete "sock" to each one. I put one foot of the stand in a five-gallon paint bucket and filled it half full of concrete. As a final touch, I painted the bucket to match my table saw color scheme.

*George Law
Los Angeles, California*

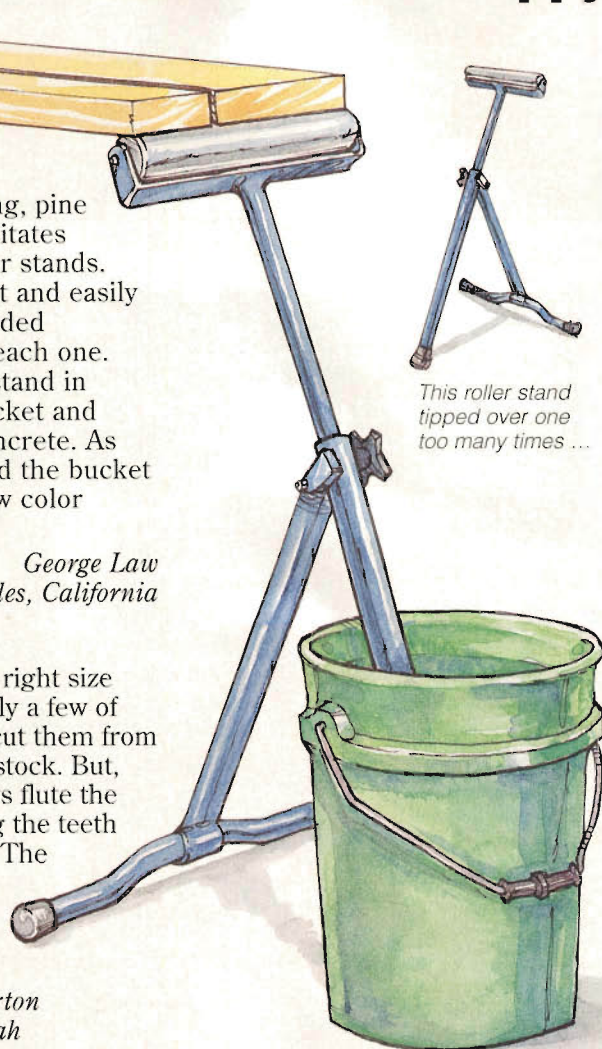
Quick Dowel Fluter

When I run out of the right size dowel pins or need only a few of a special size, I often cut them from a 36" length of dowel stock. But, before cutting, I always flute the stock first by dragging the teeth of a saw blade over it. The flutes created permit the passage of air and allow excess glue to escape.

*Michael Burton
Ogden, Utah*



This roller stand tipped over one too many times ...



More on Slipping Pipe Clamps

Howard Moody's trick of drilling holes in worn pipe clamps and using a cotter pin to prevent slipping (*December, 2000*) is one way to go, but I find it easier to simply remove the worn clutch plate assembly and reverse it. An even better solution is to use this type of clamp only on black iron pipe, as recommended by the manufacturer, instead of the galvanized variety. That way you'll get many more years of use before wearing out the clutch plates in the first place.

*Mark Fortune
Harrisonburg, Virginia*

Eliminating Bubble Trouble

A lot of finishes come in rectangular cans with small openings. To avoid bubbles in your finish, always orient your can with the opening at the top instead of the bottom when pouring. This eliminates the air pocket that makes the liquid chug and create bubbles. Another good trick is to use a funnel, so that capillary attraction slows the flow and keeps your finish bubble-free.

*Bob Cole
Watertown, South Dakota*

Notch allows fence full 45° rotation

3/4" T-slot rail

PICK OF THE TRICKS

Handle with male thread joins T-nut.

Slot accommodates 45° swivel, right or left.

Super Accurate Miters

This shop-made addition to your table saw takes the sloppiness out of the conventional miter gauge set-up. It ensures dead accurate cuts at any angle up to 45°, right or left. First, make a hardwood miter fence board and attach it to the original miter gauge with wood screws, as shown in the sketch.

Now buy a length of 3/4" T-slot rail, a plastic handle and a T-nut. You may wish to replace the original miter gauge handle with a longer one. You'll find that the new fence arrangement will run freely with no slop.

*Douglas Fairbairn
Calgary, Alberta*

Color Coded for Success

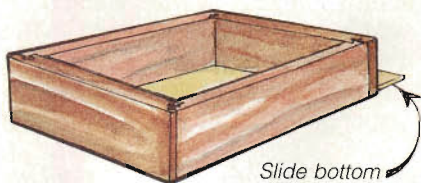
Next time you're assembling a complex project with multiple parts (raised panel doors, for example), try color coding the mating joints.

I simply put a dot of the same color on each mating joint with a felt-tipped pen. You could also turn to the local office supply store and pick up a pack of the multi-colored dots for sale there. With this system, I know immediately what goes where and the chance of error is greatly reduced. I find this works much better than penciled numbers or letters. If you run out of colors, mark the wood with a cross, a circle or some other symbol.

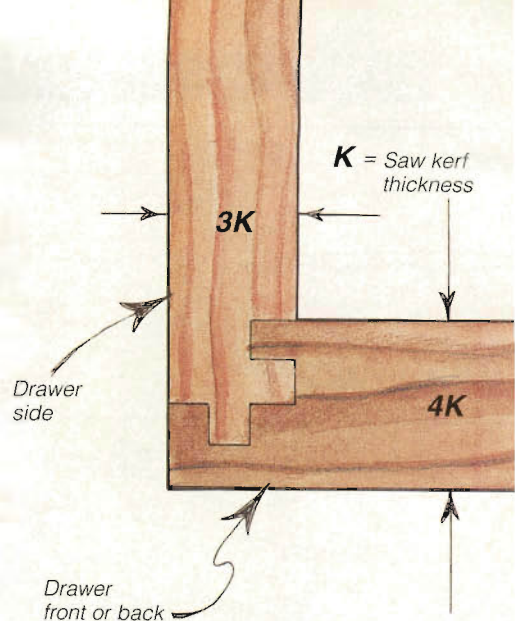
*David Franchina
Salt Lake City, Utah*

Small Drawer Joint

I often use the joint shown at right when making small, shallow drawers for jewelry boxes. Use a saw blade that cuts a square-bottomed groove (such as a side blade from a stack dado cutter) and make three accurate cuts, as shown in the drawing at left. A snug-fitting table saw insert helps minimize tear-out. It's best to use a polyurethane



Slide bottom
in from the back
after glue cures.



glue — not the yellow or carpenter's variety — and ease the sliding parts together with gentle pressure in a bench vise. Don't forget to trim the back of the drawer so you can slide the bottom into place after the glue has cured.

*John Gray
Edison, New Jersey*

Tricks continues on page 16 ...

Shhhh! Mini-Turbo vac at work.

Listen carefully. You can hardly hear our new wet/dry vac. At 63 decibels, the FEIN Mini-Turbo is one of the quietest vacuums on the market. Weighing less than 18 pounds, it's surprisingly portable. And with its dual fan motor, it produces an impressive 90 inches of static water lift, so it's remarkably powerful for its size. For information and the name of a local dealer, call **1-800 441-9878**.

Fein Power Tools, Inc. 1030 Alcon Street
Pittsburgh, PA 15220 www.feinus.co



Fein



(Circle No. 31 on PRODUCT INFORMATION form)

STEEBAR CORP.

(P.O. Box 980, Andover, NJ 07821-0980)

**THE BEST KEPT SECRET
IN THE WOODWORKING
TRADE!!!**

We have the largest selection of clocks,
plans, scroll saw projects, exotic lumber,
specialty items & more...

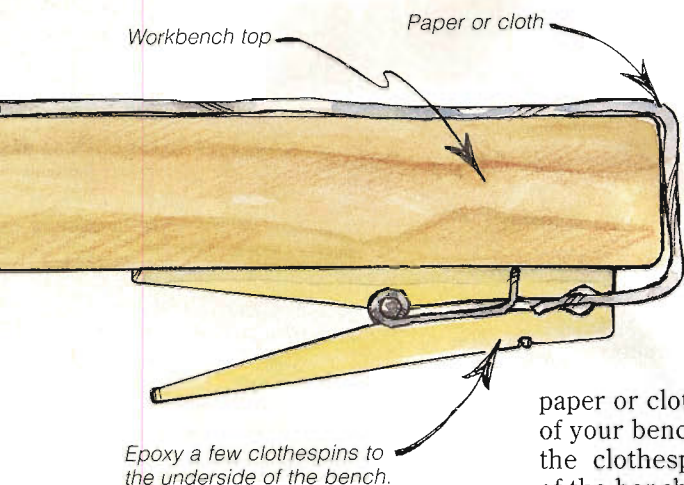
**100 PAGE CATALOG – OVER 2500
ITEMS – MORE THAN 500 CLOCKS
AND WOODWORKING PROJECTS NOT
AVAILABLE ELSEWHERE**

**MENTION THIS SPECIAL CODE TO
RECEIVE A FREE CLOCK PLAN WITH
YOUR CATALOG REQUEST
(CODE #WJ)**

**WWW.STEEBAR.COM
(973) 383-1026**

(Circle No. 81 on PRODUCT INFORMATION form)

TRICKS OF THE TRADE



Easy Cleanup After Glue-up

Nobody wants to see glue drippings on your nice workbench when you're done gluing up a project. Here is an idea I've been using for some years that makes cleaning after glue-up a breeze.

All you need are a few clothespins and a big piece of

paper or cloth that covers most of your bench top. Simply epoxy the clothespins to the underside of the bench top, an inch or two back from the edge, with the mouths facing out. The clothespins act as mini-clamps and hold the paper in place. When you're done, just store the paper under the bench. Replace the paper when it is worn out.

Yue Ma

Burnaby, British Columbia

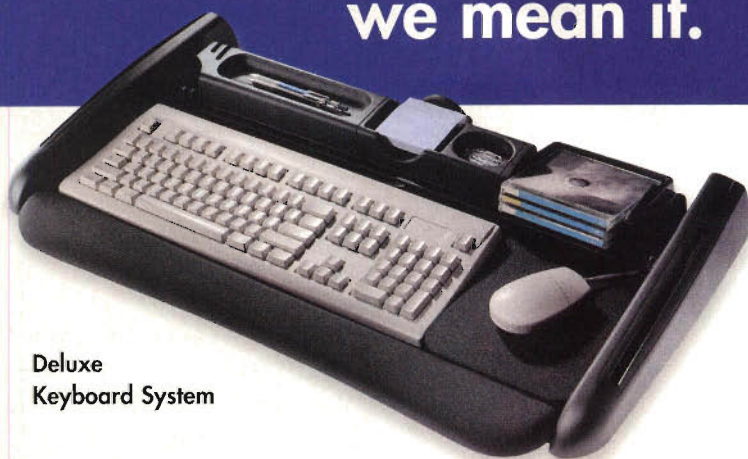


WINNER!

In addition to our standard payment (below) Douglas Fairbairn of Calgary, Alberta

will also receive a **Porter Cable 7529 Plunge Router** for being selected as the "Pick of the Tricks" winner. We pay from \$100 to \$200 for all tricks used. To join in the fun, send us your original, unpublished trick. Please include a photo or drawing if necessary. Submit your Tricks of the Trade to Woodworker's Journal, Dept. T/T, P.O. Box 261, Medina, MN 55340. Or send us an e-mail: tricks@woodworkersjournal.com

When we say deluxe, we mean it.



Deluxe
Keyboard System

- Adjustable 30-inch tray mounted on fully concealed slides
- Sleek ergonomic design

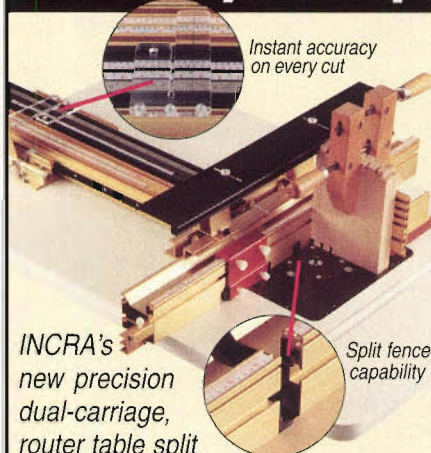
- Removable gel palm rest
- Ample room for mousing on either side

For a list of distributors,
visit our web site.

Accuride
www.accuride.com

(Circle No. 1 on PRODUCT INFORMATION form)

Incra® Fine-tune your shop!



INCRA's new precision dual-carriage, router table split fence. The ultimate fence for joint-making, edge-forming, shaping and even raised panel doors.

INCRA TWIN LINEAR
Call for your FREE Video Brochure
1-800-752-0725

Woodpeckers Inc.
The Incra Tool Source

www.woodpeck.com

(Circle No. 104 on PRODUCT INFORMATION form)

AIRY®

NAIL and STAPLE TOOLS

From start to finish ... we've got it nailed!

Introducing
AIRY's AMB
0564 CRE
nailer. It's an
15-gauge
angle finish
nailer which
uses 1 1/4"
to 2 1/4"
brads.

NEW!



AMB 0564 CRE

AIRY makes a complete line of nailers and staplers for use in a variety of woodworking & building applications.

- * Cabinets
- * Framing
- * Finish Molding
- * Roofing
- * Upholstery
- * Fencing

And many more...

**For nearest dealer call
888-835-2479**

www.airy.com

1425 S Allec Street, Anaheim CA 92805

(Circle No. 3 on PRODUCT INFORMATION form)

**New! Your own
weather forecaster!**



Our new Vantage Pro weather stations offer forecasting, on-screen graphing, and multiple alarm settings.

- Monitor temperature, wind, UV, rain, barometric pressure, humidity, and more.
- Quick-view icons and moving ticker tape display show the forecast.
- Over 80 graphs give instant analysis of highs & lows and historical data.
- Up to 70 alarms notify you of critical conditions.
- Optional data logger and PC software for even more analysis.

Wireless or cabled, starting at just \$495! Order now, or ask for your FREE catalog.

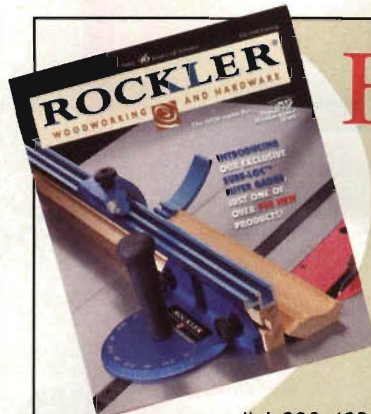
WWJ0105

Davis Instruments

3465 Diablo Ave, Hayward, CA 94545
800-678-3669 • **www.davisnet.com**

(Circle No. 24 on PRODUCT INFORMATION form)

Woodworker's Journal June 2001



Code 71313

or call 1-800-403-9736

Free Catalog!

Visit **rockler.com/go/v1532**
for the best **FREE**
Woodworking Catalog.

ROCKLER®
WOODWORKING AND HARDWARE

(Circle No. 73 on PRODUCT INFORMATION form)



SHOP FOX® INNOVATIVE PRODUCTS

NEW, FROM THE MAKER OF THE FAMOUS SHOP FOX MOBILE BASES AND TABLE SAW FENCES IS THIS PARTIAL LINE-UP OF FINE WOODWORKING MACHINES. WHETHER IT IS THE PATENTED OSCILLATING DRUM SANDING FEATURE ON THE DRILL PRESS OR THE PATENT PENDING MORTISING MACHINE, SHOP FOX MACHINES ARE DESIGNED FOR PRACTICAL USE. SEE THESE FINE MACHINES AT A DEALER NEAR YOU!

OSCILLATING DRILL PRESS

- ♦ MOTOR: 1/2 H.P., 110V, 1725 R.P.M.
- ♦ OVERALL HEIGHT: 38"
- ♦ SPINDLE TRAVEL: 3 1/2"
- ♦ SWING: 13 1/2"
- ♦ DRILL CHUCK: 1/2"
- ♦ TABLE: ROUND 12 1/2" DIA.
- ♦ TABLE SWING: 360°
- ♦ 12 SPEEDS: 250-3050 R.P.M.
- ♦ WARRANTY: 2 YEARS
- ♦ WEIGHT: 115 LBS.

**PATENT OWNED BY
WOODSTOCK
INTERNATIONAL INC.**

**W1668
SHOP FOX®
Oscillating Drill Press**

**Includes
Drum Sander Set**
The patented design
moves the spindle up and
down while rotating.

2 H.P. DUST COLLECTOR

- ♦ MOTOR SIZE: 2 H.P., 110/220V, SINGLE-PHASE, 3450 R.P.M.
- ♦ MOTOR AMP DRAW: 12 AMPS (220V)
- ♦ 5" INLET WITH A REMOVABLE "Y" FITTING WITH TWO 4" OPENINGS
- ♦ PORTABLE BASE SIZE: 21 1/2" x 33 1/2"
- ♦ BAG VOLUME: 5.4 CUBIC FEET
- ♦ HEIGHT (WITH BAGS INFLATED): 78"
- ♦ BAG SIZE (DIA. X DEPTH): 19" x 33" (2)
- ♦ AIR SUCTION CAPACITY: 1550 C.F.M.
- ♦ STATIC PRESSURE: 12.3"
- ♦ STANDARD BAG FILTRATION: 30 MICRON
- ♦ WARRANTY: 2 YEARS
- ♦ WEIGHT: 130 LBS.

**W1666
SHOP FOX®
2 H.P. Dust Collector**

16" BANDSAW

- ♦ MOTOR SIZE: 1 1/2 H.P., 110/220V
- ♦ MAX. CUTTING WIDTH: 15 1/4"
- ♦ MAX. CUTTING HEIGHT: 8 1/2"
- ♦ TABLE SIZE: 16" x 16"
- ♦ TABLE HEIGHT: 43"
- ♦ BLADE SIZE RANGE: 1/4" - 1 1/4"
- ♦ BLADE LENGTH: 115"
- ♦ BLADE SPEEDS: 2300/3300 F.P.M.
- ♦ WARRANTY: 2 YEARS
- ♦ WEIGHT: 335 LBS.

Features the patent pending
**Quick Blade
Tension Lever**

**W1673
SHOP FOX®
16" Bandsaw**

MORTISING MACHINE

- ♦ MOTOR: 1/2 H.P., 3450 R.P.M.
- ♦ ADJUSTABLE DEPTH STOP ROD
- ♦ UNIQUE SWIVELING BASE
- ♦ HYDRAULIC CYLINDER FOR EASY RELEASES
- ♦ 6" x 16" WOOD TABLE
- ♦ MORTISE TO THE CENTER OF A 8" WIDE BOARD
- ♦ MORTISE LUMBER TO 8 1/4" THICK
- ♦ HEAVY CAST IRON CONSTRUCTION
- ♦ WARRANTY: 2 YEARS
- ♦ WEIGHT: 90 LBS.

PATENT PENDING

**W1671
SHOP FOX®
Mortising Machine**

The unique
Swiveling Base
allows easy off the bench
operations and opens new
possibilities for custom
mortises.



332601953

WHOLESALE ONLY
Call or Email us for the
location of a dealer near you!

1-800-840-8420

sales@woodstockint.com • **www.woodstockinternational.com**

SHOP FOX® IS A
REGISTERED TRADEMARK
OF WOODSTOCK
INTERNATIONAL, INC.

**WOODSTOCK
INTERNATIONAL INC.**

(Circle No. 107 on PRODUCT INFORMATION form)

How Do You Keep Cherry Light?

Q Is there a way to finish cherry that will prevent it from becoming dark as it ages? If there is not a finish that will prevent the cherry from becoming dark, is there a finish that will slow the process?

*A.E. Freeman
Ames, Iowa*

A Several factors contribute to cherry darkening, but the most significant is light. Keeping the wood out of sunlight will slow the darkening, but won't stop it entirely. In addition, using a finish that contains UV (ultraviolet light) blockers or absorbers will further slow the process.

The type of finish is also a factor. Most finishes themselves darken over time, contributing to what appears to be the changing color of the wood. Linseed oil-based varnishes and coatings darken the most, but lacquer, shellac, and various polyurethanes all add their effect. The finishes that change color

the least are the water-based acrylics. They start clear and stay clear. Next to them are the water-based polyurethanes.

The ideal combination would be to find an exterior water-based acrylic finish that contains UV blockers/absorbers, and then keep the piece out of direct sunlight.

— *Michael Dresdner*

Q I am thinking of buying a DeWalt scroll saw. I like the display model that I have seen, primarily because the tension adjustment seems to be more positive. However, I was shopping at a farm implement store and ran across a Clarke scroll saw.

The main thing that caught my eye on this particular scroll saw was the ability to turn the blade at a 90 degree angle in order to cut longer wood. Does DeWalt have anything like this, or is it a protected attachment?

*Bill Bush
Greeley, Colorado*



DeWalt's scroll saw features a 20" throat depth, while an attachment on the Clarke scroll saw allows the blade to turn 90°.

A The DeWalt scroll saw has a 20" throat depth and can cut to the center of a 40" piece of wood. The display model in question, which comes with the on/off switch, variable speed control, a positional dust blower, blade tensioning, tool-free blade changes and five pivot points, retails for about \$449.

— *Bill Harman*

The Clarke attachment you saw is not patented, but DeWalt does not have one. It functions when you take the blade holder off, turn it a quarter turn, then replace and retighten it. Since the blade is now facing to the side instead of to the front, you are able to cut up to any length of wood.

The Clarke scroll saw retails for about \$100 and comes with an on/off lockout switch, a 1/2 HP motor, and a dust blower.

— *Brad Anderson*

Q In a *What's In Store* article featured in the February 2001 issue of *Woodworker's Journal* ("Conversion Gun:

*Cherry with
an oil finish*

Contact us by writing to "Q&A", *Woodworker's Journal*, 4365 Willow Drive, Medina, MN 55340, by faxing us at (763) 478-8396 or by e-mailing us at: Q&A@woodworkersjournal.com.

Please include your home address, phone number and e-mail address (if you have one) with your question, so we can personally respond.

Spraying's Future"), you state that the Wagner HVLP spray gun has a transfer efficiency rating of 89 percent.

In an article on using spray guns in the same issue ("Understanding Spray Guns"), it is stated that the best transfer efficiency rating of an HVLP spray gun is 65 percent. Can you tell me where the discrepancy might be?

*Chuck Fradella
Monticello, Minnesota*



A I was always curious about the range of claims for transfer efficiency, so I decided to test it out myself under real use conditions. In an ideal spray booth at a research

facility, I set up a test of several different types of guns — standard, airless, HVLP turbine, HVLP conversion, and powder coat — to see what transfer efficiency you could really

THIS ISSUE'S EXPERTS

Michael Dresdner is a nationally known wood finishing expert and author of *The New Wood Finishing Book* from Taunton Press.

Bill Harman is a product manager for scroll saws at DeWalt Tool Company.

Brad Anderson is a customer service representative for Clarke Power Products.

Tony Toratore, Sr. is director of sales at Wagner Spray Tech Corporation.

continues on page 20 ...

SEIKO MINI INSERT CLOCKS



238S-RWhite



238S-RGold



238S-AWhite



238S-AGold

FEATURES:

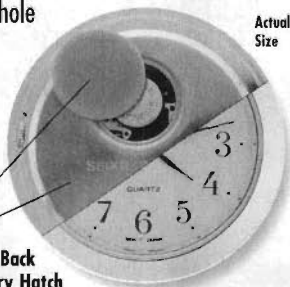
- Glass crystal
- Metal case
- Stainless steel back
- 1-7/16" diameter — fits in 1-3/8" hole

SPECIAL OFFER!

**5 for \$29.95
postpaid**

NEW!

**Stainless Steel Back
with Rubber Battery Hatch**
"The easiest way to change
a battery in the industry."



Actual
Size

We accept:



Credit cards only.

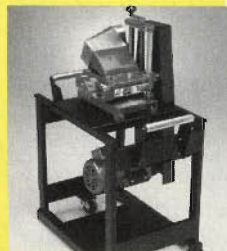


VILLAGE ORIGINALS
CLOCK COMPONENTS
24120 Detroit Road, Westlake, OH 44145
Phone: 1-800-899-1314 • Fax: 1-440-835-9060

(Circle No. 91 on PRODUCT INFORMATION form)

Profit on wheels!

**Our molder
will make
your
custom
work...**



...customarily profitable!

For over 40 years the USA made W&H Molder has been a wise investment for woodshop owners. Find out more about this quality machine!

TURN THIS...INTO THIS...



...INTO \$\$\$!



**Williams & Hussey
Machine Co., Inc.**

PO Box 1149 • Wilton, NH 03086
1-800-258-1380 (USA)
603-654-6828 fax: 603-654-5446
Visit us on-line at: williamsnhussey.com



(Circle No. 97 on PRODUCT INFORMATION form)

QUESTIONS & ANSWERS



WINNER! For simply sending in his question on HVLP spray guns, Chuck Fradella of Monticello, Minnesota wins a Bosch 1640 VSK fine cut saw. Each issue, we toss new questions into a hat and draw a winner.

expect. With HVLP, the results vary depending on what pressure you are spraying and what object you are trying to spray.

For instance, spraying a very thin material at very low tip pressure (5 psi) directly onto a large, flat surface, like a sheet of plywood, you can achieve some remarkable transfer efficiencies, especially if you don't take the gun all the way to the edge.

However, spraying real furniture and wood objects under normal conditions with a perfectly set up HVLP gun running at 10 psi at the tip, the very best

"I generally view high transfer efficiency claims about the same way as I do weight loss and wrinkle cream claims on television."

— Michael Dresdner



transfer efficiency we could consistently produce was around 65 percent. I generally view high transfer efficiency claims about the same way as I do weight loss and wrinkle cream claims on television. They occur in some situations, but don't expect them.

— Michael Dresdner

In addition to the factors Michael Dresdner mentioned, the paint you are using and its viscosity are some of the many other factors that can influence transfer efficiency. When we tested our HVLP gun, through an independent engineering company, the transfer efficiency we achieved, with the paint we used, was 86.9 percent. Everything being equal, any HVLP system will give you extremely high efficiency. The specifics depend on your situation.

—Tony Tortore

Build A Family Heirloom Just 38" tall

The Sommerfeld Junior Grandfather Clock

Plans NOW AVAILABLE at

SOMMERFELD'S TOOLS FOR WOOD

The first in a series of project plans for the Sommerfeld Junior Set

10 pages of full-scale plans with 70 step by step instructions

PLAN-001 - \$19.95
LIST - \$ 24.95



We stock the full line of CMT cutting tools. Check out our complete on-line catalog at www.sommerfeldtools.com

CALL TOLL FREE 1-888-2BUY-CMT (1-888-228-9268)





(Circle No. 79 on PRODUCT INFORMATION form)

New!

Dia-Sharp™

Clean cut quality.

From the Leader in Diamond Sharpening...



6 inch



4 inch



3 inch

- ◆ Fast & Easy
- ◆ Stays Flat
- ◆ Sharpens Anything
- ◆ Durable Diamond



3 Sizes, 3 Grits of Continuous Diamond Sharpening Stones!

Diamond Machining Technology, Inc.
Marlborough, MA 01752 USA
(800) 666-4368 www.dmtsharp.com



(Circle No. 26 on PRODUCT INFORMATION form)

COMMAND PERFORMANCE



★ ★ THE ★ ★ GENERAL

In a test of multi-purpose 10" saw blades Wood Magazine declared that general purpose 40-tooth ATB's outperformed the conventional 50-tooth ATB/R combination blades. If you're looking for the ultimate all purpose work horse, let the CMT General lead you to battle. For fast, clean crosscuts and rips in hardwoods and laminates victory is sure to be yours with CMT. Wood Magazine was "tickled pink" with the performance of our thin kerf General. You will experience similar emotions.

CMT

the only ORANGE one™

CMT USA, Inc.
307-F Pomona Drive
Greensboro, NC 27407
888-268-2487

www.cmtusa.com

(Circle No. 17 on PRODUCT INFORMATION form)

America's Founding Woodworkers

By Joanna Werch Takes

Photos, below and below left, courtesy of Colonial Williamsburg Foundation; Williamsburg, Virginia

Timeless Skills

18th Century Woodworking

Today's woodworkers, says Michael Dunbar, tend to romanticize their forebears. "One of the most common cliches is, 'Oh, they had so much time,' back in the 18th century," he said. Then he quickly answered himself: "No, they didn't. They had families to feed; they were competing with other craftsmen — they worked at a pace that would've amazed us."

Their skills certainly amazed me during a visit to Colonial Williamsburg, the site of Anthony Hay's cabinetmaking shop in the late 1700s and, earlier this year, the location of the third annual *Working Wood in the 18th Century* Conference.

Hay's shop is actually still going, in a way. When I visited the reconstructed version during a break from the conference, shop workers told me that archeologists



At the reconstructed 18th century cabinetmaker's shop in Colonial Williamsburg, Virginia, "We want to show the trade as it was plied years ago," says shop master Mack Headley, far left.

The shop's current master, Mack Headley, noted that when people look at old pieces like the chairs such a crest rail would have adorned, "they see accuracy and regularity and assume it was done by machine." Actually, he noted, 18th century woodworkers were talented handcraftsmen. "It's quite miraculous, really, with repetition, what you can achieve."

Mack and Michael were among presenters sharing some of those handcraftsmanship secrets with those attending the conference. This year's focus was on chairs.

Michael's chair specialty, Windsors, are a "sublime" example of woodworkers' historical talents, he said. Both the chair's spindles and the holes they fit into are

tapered, creating a friction bond. It's not very strong if left alone, "but every time you sit in the chair, you've simulated the action of hammering the spindle further in," Michael said. "Other chairs wear down with use. This one: using it strengthens it."

For Mack, formal chairs, what we now call Chippendale, are still a mainstay in Hay's shop. In the mid 1700s, as the shop workers told me while I leafed through a pattern book for seat styles, Chippendale was just one of the fashionable designers of the day.



Today, it's living history. Originally, 18th century cabinetmaking was high fashion: citizens kept up with their neighbors through furniture.

had found chisels, rasps and an unfinished piece of crest rail on the site. Judging from the location of the last item, it's reasonable to guess that an unhappy 18th century woodworker threw it out the window.



Mack used 18th century techniques and tools — such as chisels and hand planes instead of sandpaper — when building a chair for the conference.

One of the most important aspects of these chairs, Mack said, was the relationship among the dimensions. Chair rails, for instance, might be one sixth the height of a piece, while splat widths occurred at intervals of one and two thirds the piece's width. "The dimensions are coming from the human body," he said. "The frame ends up being to the scale of a man's arms and legs."



The originals of these cabinetmaker's tools were most likely imported from England.

Even attributes that seem like shoddy workmanship today can demonstrate 18th century efficiency. Since furniture was pushed against the wall when not in use, they frequently didn't finish the backs or the bottoms. As Michael put it: "Why waste time and money on a surface no one's going to see?"

For more insights into 18th century furniture, and information on next year's *Working Wood in the 18th Century Conference*, contact the Williamsburg Institute at 800-603-0948 or visit www.history.org.

Shop Talk continues on page 24 ...

Quality Pen Kits and Other Turning Kits



- Designers & Manufacturers
- Wholesale & Retail

The Berea Hard Woods CO. Inc.

Manufacturer of quality writing instruments, components and kits.

CALL FOR FREE CATALOG

6367 Eastland Rd. • Brookpark, Ohio 44142 U.S.A.
Ph: 440-234-7949 • Fax: 440-234-7958 • bereahard@aol.com

(Circle No. 11 on PRODUCT INFORMATION form)

Refinish Your Future.



Own your own business.

Let your passion for furniture lead you into a new business with a Furniture Medic franchise. We're a complete on-site repair and restoration-refinishing business servicing homes and companies as well as handling moving and insurance claims. We offer extensive training and support with a low initial investment and manageable overhead. Financing is available to qualified candidates and franchises are offered nationwide. Call today to brush up on the details.



FURNITURE MEDIC
"the prescription for damaged furniture"

www.furnituremedicfranchise.com



1-800-RUN YOURS

(Circle No. 33 on PRODUCT INFORMATION form)

CRAFTSMAN

Your projects aren't all flat, so why use a flat sander?



Sands all shapes and contours
Three rotating sanding discs wrap and hug convex, flat and concave surfaces like no flat sander can.



Let the 3-D sander do the work
Requires very little pressure to remove rust, paint and stain from a variety of materials and surface contours.



Precise fingertip control
The 3-D sander's compact design fits comfortably in your palm for one-hand operation. Turn the dial to adjust sanding speeds of 800 to 2600 rpm.

SEARS

THE GOOD LIFE
AT A GREAT PRICE
GUARANTEEDSM

(Circle No. 19 on PRODUCT INFORMATION form)

Winning Entries

Woodworkers' Experiments

Rockler Woodworking and Hardware's Woodworker's Contest continues to grow. This year's version, the fourth annual, saw over 1,500 entries from woodworkers across the nation.

George Huffman of Carmel, Indiana, took first place in the furniture category with his William and Mary trumpet-legged highboy. "We say the highboy has been in the family, in one way or another, for more than 100 years," George said. The wood came from a walnut tree



Pearl inlays in Gordon Bischoff's guitar were a request from the owner.

grown on a family farm. George helped his uncle cut and mill the tree before it ended up as the highboy, which took four years of planning and nine months to build.

First place in small projects went to Gordon Bischoff of Eau Claire, Wisconsin. Gordon's interest in guitar construction comes from his day job: guitar repair. "An acoustic guitar is really a mechanical air pump," he explained, "Besides just being structurally sound, it also has to be acoustically responsive."



George Huffman finds he's still making little changes to his highboy as it sits in his living room.



Merle Martell of Eden Prairie, Minnesota, took honorable mention in the small projects category with his Pennsylvania spice chest. Merle added a hidden compartment in the back of a hidden drawer, and designed a release mechanism that relies on magnets hidden in the back of the drawer.

Two stainless steel balls mounted on rare earth magnets under the chest provide built-in "keys."

"When I was a kid with marbles, the one thing you always wanted to have was a steely marble," Merle said, explaining his inspiration.

For more information on the winners, and important details about next year's contest, visit the company's web site: www.rockler.com.



Merle Martell's beautiful spice chest has lots of drawers — including a hidden one in back, with its own hidden compartment.



3-D SANDING! NO WELL-ROUNDED WORKSHOP SHOULD BE WITHOUT IT

The world of woodworking projects is not flat. So why use a flat sander? The innovative rotating heads of the Craftsman 3-D sander wrap around and hug rounded, flat and uneven contoured surfaces. With fingertip control, you'll create a smooth, fine finish on a variety of materials. Sanding speed is adjusted with an easy turn of a dial. Remove a little material, or a lot. Your projects take on many shapes. At last there's a sander that can handle all of them.

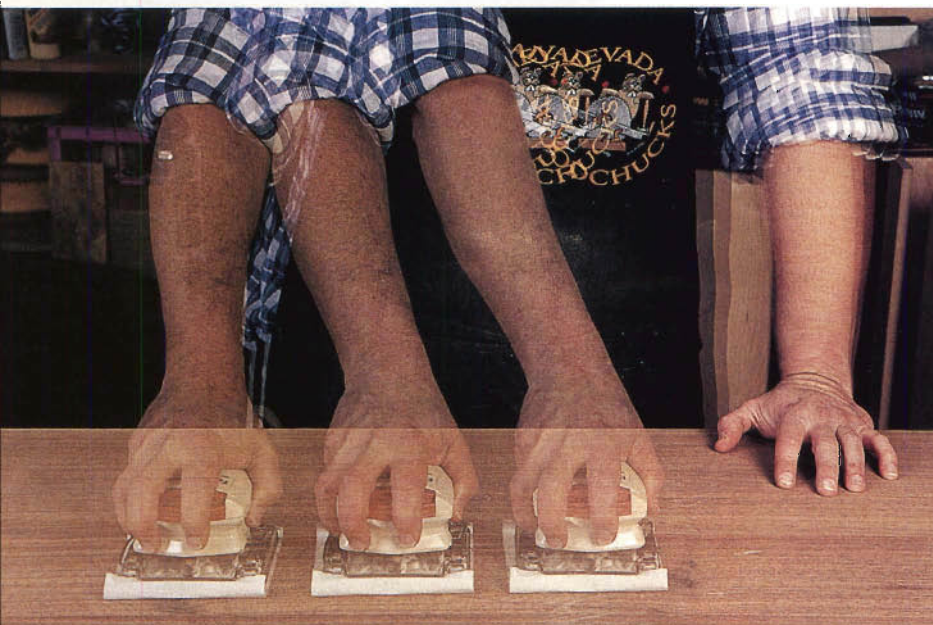


MAKES ANYTHING POSSIBLESM



Sanding: The Real Key to A Great Finish

By Michael Dresdner



Every sanding operation has an objective: something specific you want to accomplish. The author breaks down the process into four steps and details the objective to each.

Sanding. Ugh. If that's how you feel, you are in good company. Nobody likes doing it; yet most people sand too much, and still don't get the results they deserve. Woodworkers often blame the choice of finish or their application technique for less than perfect finishes when in fact they are fighting with poorly prepared surfaces. How a finish feels and looks may have more to do with how you sanded the wood than how you applied the finish. I can't eliminate sanding from the finishing process, but I can tell you how to do it, and what to use, so that you'll get a beautifully prepared surface in the quickest time with the least effort.

What's the Point?

Each sanding operation has an objective: something specific you want to accomplish. You

need to know what the objective is for each step, along with the fastest way to achieve it.

Step One is to remove tool marks and machine marks from the wood. If you just finished using the planer, jointer, saw, hand plane, or chisel, there are most likely some marks. Perhaps the surface is uneven or not quite flat, or curves are too bumpy. Use a coarse (80 or 100 grit) aluminum oxide paper, sanding diagonally, to flatten or contour the surface. As soon as the tool marks are gone and the surface is smooth and flat, stop sanding and move on to step two.

Step Two also has only one objective, to remove the coarse scratches left by step one. Switch to 120 or 150 grit aluminum oxide paper to remove the scratches left in step one. If you are sanding by hand, change directions so you are sanding diagonally at 90 degrees to the last sanding. As soon as all the old 80 grit scratches are gone, stop.

Step Three is similar to step two. Use 180 grit aluminum oxide paper to remove the scratches left by the last sanding, then stop as soon as the 120 grit scratches are gone.

Step Four, the final sanding step, is simply to straighten out the 180 grit scratches. The quickest way to do that is to use the same grit paper. Only this time, I switch to garnet paper and sand with the grain until the diagonal 180 grit scratches are gone. In most cases, 180 grit garnet will leave the surface smooth enough to finish, but some very hard woods, like boxwood or ebony, may require finer sanding steps. If you can still see obvious and offensive scratches in these very hard woods, continue sanding to 220 or even 320 grit.

Sanding by Machine

To put it bluntly, sanding by machine is easier than sanding by hand. The same rules still hold though, with some minor exceptions. To flatten or shape wood with a belt sander, run it diagonally to the grain just as you would with a block. Be careful, though. Belt sanders can be aggressive and are not really the right tool for finish sanding.

Vibrating or random orbit hand sanders, either electric or air powered, are a better choice. They cut by rotating



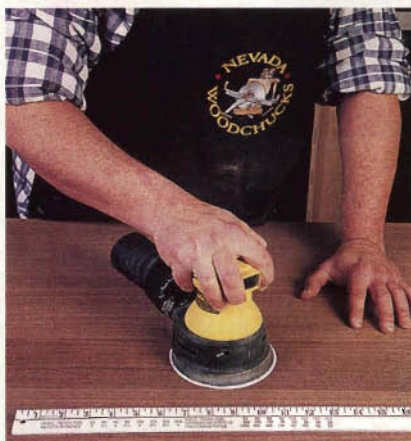
While sanding is the key to a great finish, knowing how to sand efficiently is the key to woodworking enjoyment.

in tiny circles, so what direction you move the machine in is irrelevant. It is always cutting more or less across the grain. For that reason, they are great for all sanding steps except the final pass, which should be by hand, with the grain, and if possible, with garnet paper. The one problem associated with these is "pigtailed," small curlicue scratches that show up only after you have stained or finished.



If you want your piece to stain evenly, sand it uniformly. The left side of this board was sanded only to 120 grit, and the right side to 180. The same stain wiped across both resulted in two different intensities of color.

The secret to avoiding pigtailed is to lighten up and slow down — literally. Don't press down on the sander or it will slow down the speed of the head, causing pigtailed. Use only the weight of the sander itself along with the weight of your hand. And move it slowly. Moving the sander too fast or "scrubbing" with it will also cause pigtailed. Hand sanders are meant to be moved only about 1" per second. This page is about 11" long. Try moving your hand as if you were sanding so that it takes 11 seconds to get from top to bottom. Slow, isn't it? But if you move your sander like that, you won't get pigtailed, and you'll need to sand each area only once per

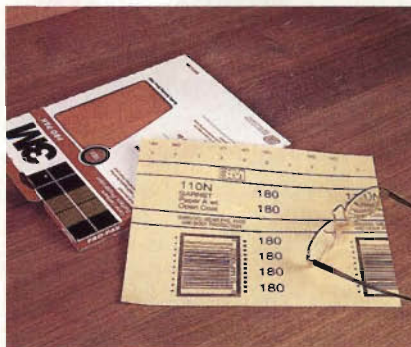


Hand sanders are meant to be moved only about 1" per second. Moving the sander too fast or "scrubbing" will also cause pigtailed.

grit without going back over it. I know it is frustrating, but calm down and daydream when you sand and you'll get a better job. As I said, lighten up and slow down.

Sanding Media

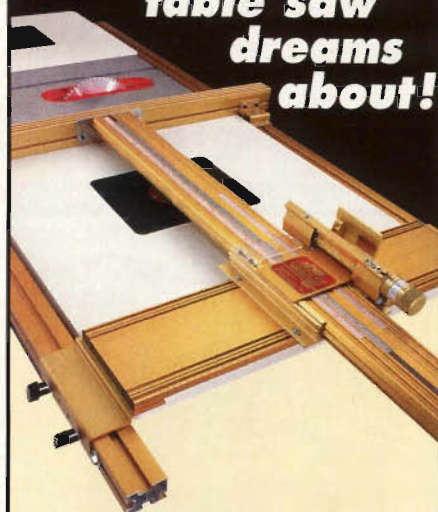
Using the right stuff also contributes to quick results. The problem is that store shelves are littered with different types and configurations of sandpaper. Sorting them out can be confusing. Start by turning your sandpaper over and reading the back. Inside a double line is the manufacturer's name. (Here, it's 3M™.) Below that is the information box, starting with 110N, the manufacturer's product number. Then comes the nitty gritty.



Always read the back of your sandpaper. It will provide the information you need to make good sanding choices.

continues on page 28 ...

The fence your table saw dreams about!



THE NEW INCRA TS-III

Call for your FREE Video Brochure
1-800-752-0725



Woodpeckers Inc.
The Incra Tool Source

www.woodpeck.com

(Circle No. 105 on PRODUCT INFORMATION form)

Quality Heirloom Clock Kits...

Satisfaction Guaranteed!

KLOCKIT

WORLD'S LEADING SUPPLIER TO CLOCKMAKERS FOR 30 YEARS
Spring 2001 Catalog

Fun For The Entire Family!
Give the gift of all-daytime fun to a loved one!
A handcrafted clock is the perfect gift, a conversation
piece, a centerpiece, a decorative treasure.
• Clock & Watch Kits
• Components Kits
• Finished Clocks
• Also Available!

To Order Call:
1-800-KLOCKIT
Hours: 9am-5pm EST

10% OFF

FREE* CATALOG!

Mention OFFER WJ601

*(Canada \$2 • Foreign \$5)

KLOCKIT

From start to finish, Klockit has it all!

- Quality Clock Kits For All Skill Levels
- Music Movements & Boxes
- Quartz, Atomic & Mechanical Clock Movements
- Components for All of Your Clockmaking Needs
- Finished Clocks & Watches - Including the Amazing Atomic Time Technology!

www.klockit.com

Internet Exclusive Products!

Listen to Mechanical & Music Movements!

1-800-KLOCKIT that's 556-2548

(Circle No. 44 on PRODUCT INFORMATION form)

PLANS PLANS PLANS

Woodworking Plans Made Easy!



ONLY
\$9.99

plus handling

Steamer Trunk I Plan #52304

Hardware Kit available

ONLY
\$4.95

plus handling



Heirloom Chessboard Plan #17328

Hardware Kit available



Side Cabinet:
75" H x 25" W x 21" D

Center Cabinet:
80" H x 36" W x 24" D

Entertainment Center III Plan #52232

Hardware Kit available

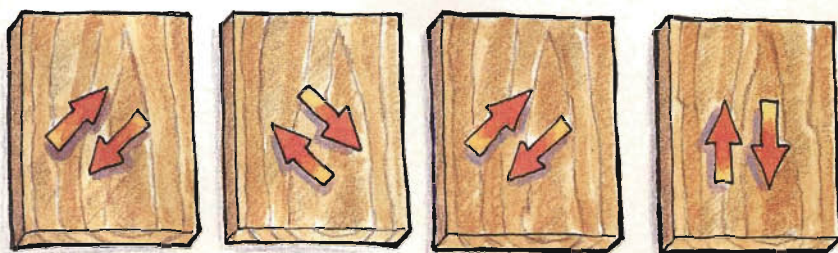
ONLY
\$9.99

plus handling

See page 38
for more plans!

mention code 71311

CALL 1-800-610-0883 or log on
www.woodworkersjournal.com



Starting with a coarse grit (80 or 100), work successively up through finer grit sandpaper. Use a pattern of sanding in alternating angles across the grain, until you finish with 180 grit (the author prefers garnet paper for the final pass) or finer, working with the grain.

Types of Grits

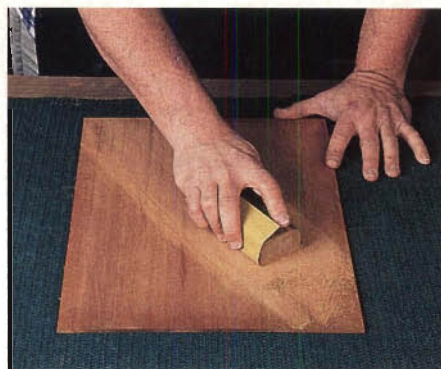
Our example is garnet paper, and it says so clearly.

However, it is not always so obvious. Some companies use code words for certain types of grit. Adalox,

Aloxite, Imperial, Metalite, Production, and Three-M-ite are all words used for aluminum oxide. Silicon carbide grit may be called Tri-M-ite, Durite, Fastcut, or Powercut. I use aluminum oxide grit for sanding raw wood. It's a sharp mineral that cuts fast and stays sharp. Silicon carbide will work well too, but it is usually more expensive and there is no real advantage to it. But for my final sanding, with the grain, I switch to garnet. Used garnet paper is also handy for "burnishing" end grain so that it absorbs less stain — a common problem when staining both flat and end grain.

The Paper Itself

Next comes the paper's weight. Paper backing goes from A, the thinnest and most flexible, through C, D, E, and F, the thickest. I prefer thin paper backings. They don't "crack" when you fold them and easily conform to curves. When I do want a flat sanding surface, I back them up with a sanding block. Of course, not all sandpaper is made with paper. Other common backings include fiber (disks), cloth (belts),



waterproof paper (wet-or-dry sheets) and polyester film, which is also waterproof (disks, belts, and sheets).

Closed coat sandpaper means that grit covers 100

percent of the surface of the sandpaper. Open coat means that only 40 percent to 70 percent of the surface is covered. In other words, there are spaces between the pieces of mineral grit. Since each sharp piece of grit acts like a small cutting tooth, the spaces between act like the gullets in a saw blade, clearing out sanding dust (called "swarf") as you work so that the paper does not clog. For woodworking, we use only open coat papers.

Grit Size

Also printed on the paper is the number indicating the size of grit and, accordingly, how coarse the paper is. That seems simple enough, but it turns out there are different grading systems. In the CAMI or ANSI system, the most common, low numbers mean coarser paper, and higher numbers mean finer paper. The FEPA system uses the same numbers, but with a P in front of them. The grits are identical from 220 and coarser, but increase at a different rate for finer paper. As a result, CAMI graded 600 paper is about equivalent to FEPA

graded P1200 paper, but 180 grit is equal to P180. Next is the micron system, whose numbers get larger as the paper gets coarser — just the opposite of the other two systems. Micron papers have the Greek letter “mu” after the number. And, of course, there is the old standby, the naming system that uses words like extra coarse, medium, and ultra fine.

Sponges and Blocks

Sandpaper comes in square sheets, stick-on disks backed with pressure sensitive adhesive (PSA) or hook-and-loop fasteners, belts, and even blocks and sponges. The latter are fairly recent additions to the pantheon of sanding choices. Sponges coated with abrasive grit are waterproof and, unlike sandpaper, can be rinsed out and reused. They easily conform to whatever shape you are sanding without tearing or wrinkling. The only down side is that they are substantially more expensive.

Sanding is not fun, but if done correctly, it will improve your finishing results dramatically. And as much as any other aspect of woodworking, a good finish reflects well on the builder.



This masked man is Michael Dresdner, finishing expert, author and proprietor of a new school for woodworking in Washington state, The Woodworking School, 253.862.6571.

1,300 ONLINE
PLANS

www.woodworkersjournal.com



PANEL PRO
Vertical Panel Saw

PanelPro® is a new kind of saw that makes your shop more productive. Just slide your panel into PanelPro and you get fast, square, accurate cuts every time. Specially adapted industrial duty saw motor is fully guarded and rotates from crosscut to rip in a snap. Factory set alignment minimizes set-up. Portable and light-weight for contractors. Call us or surf our website for more information.

**13460 Central Avenue N.E.
Minneapolis, MN 55304
1-800-599-1655 www.panelpro.org**

\$699
Plus Freight

(Circle No. 63 on PRODUCT INFORMATION form)



ET125™

THE ProSHOT® 1 ELECTRIC BRAD NAIL GUN



**So Powerful You May Need
a License to Carry.**

Available at Lumberyards, Home Centers, Hardware Stores, and
Wherever Fine Tools are Sold.



Arrow Fastener Co., Inc., 271 Mayhill Street, Saddle Brook, New Jersey 07663
Canada: Jardel Distributors, Inc., 6505 Metropolitan Blvd. East, Montreal, Quebec H1P 1X9
United Kingdom: Arrow Fastener (U.K.) Ltd., 14 Barclay Road, Croydon, Surrey CRO 1JN

www.arrowfastener.com

(Circle No. 7 on PRODUCT INFORMATION form)



Garden Benches

By John Thayer

A New England craftsman pulls out all the stops to create a set of Asian-inspired benches.



Challenging projects are the heart and soul of custom woodworking. In January 1999, Frank Shirley, an architect I've known since 1995, asked me to help with an ongoing project. Frank was engaged in restoring a turn of the century house for Peter and Eileen Norton. He brought me on to build the period style furniture in the rooms which he and his team were restoring. In addition to the interior work, the grounds of the home were to have an Asian inspired gazebo. Circular and somewhat pagoda-like, it required two benches — built to reflect the building's curves. Frank asked me if I had an interest in tackling these somewhat complicated benches, and I said I did.

I received the Bench Study drawings from Design Associates of Cambridge, Massachusetts and put my thinking cap on. The Bench Study specifications outlined the need for two curved benches, to be made of teak for use in a 10' diameter garden structure. The benches were essentially quarter circle sections of the gazebo's interior. But the curved aspects of the benches were not the only challenges to address. The drawings showed cabriole legs mitered to join shaped and curved aprons ... not a task for the fainthearted!

It was obvious from the drawings that Frank was introducing elements of Chinese joinery into the benches. The original style behind the structure was one of *chinoiserie*. Europeans in the mid 1800s had traveled to China and brought back concepts for garden structures based on their exposure to those in the Far East. Chinoiserie is the result of Europeans' interpretations of "the object in the garden."

Frank and I discussed which species of wood should be used to make the benches. We looked at South American hardwoods as teak substitutes. We examined woods like *Ocotea Rubra*, silver balli and wana. But in the end, teak remained our best choice for an outdoor setting.

The Details: Curves, Leg and Aprons

As I further examined the drawings, I decided that I wanted the top planks to be continuous laminations, made up in a jig or mold, each to their exact arc. The inner and outer planks were to be 3 1/4" wide with a descending lip, front and back. The four intermediate planks would be just a bit under 3".

The detail of the leg-to-apron connection showed a mitered intersection. I had seen this joint in pieces of Chinese furniture, so I understood that although a simple miter showed at the joint, there was some complex mechanical joinery hidden in the mix. The leg and two aprons are joined in three planes, masked by the visible miter. Blind mortise and tenons gave the joint strength and a raised post gave the waist moulding a large glue surface, while the miter gave the corner a simple and elegant appearance. Elegant, to be sure, but certainly not simple.

The inspiration for the apron and leg detail came from a Ming dynasty chair. The legs, in and of themselves, were complex and highly detailed. There were carvings and a fluid shape, as well as a high degree of exact joinery.

The apron front and back were long and curved. To make the aprons, I decided that I would laminate a series of strips of teak, with each consecutive lamination reduced in height. This technique would give me a visible horizon line to follow when shaping the profile of the apron's curve (not to be confused with its arc) from top to bottom.

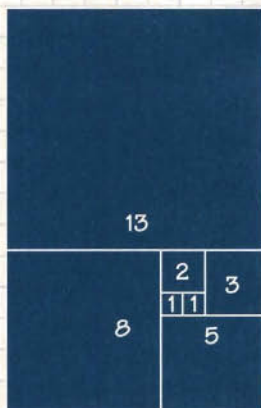
To support all of the various visible external components, there would need to be an internal superstructure to hold all the curved, shaped and carved elements together. These benches would not only be beautiful ... they would be a lot of work! It was time to go beyond the drawing board and start cutting up some teak.



Inspiration for the details on the garden bench were drawn from a Ming Dynasty chair. The Chinese cabriole style leg ended in a carved rounded foot with spirals etched into two faces.

How to make spirals using the golden ratio

A great deal of research and discussion went into the carvings found on the feet of the benches. The architect had identified details on some 4th century Ming chairs that became the basis for the bench carvings. In determining the layout for the spiral carvings, I asked Frank for his help. The spirals were based on a ratio called the golden section, or golden ratio. This ratio of 1.618, is arrived at by adding the successive number to the number which precedes it. The rate of successive terms goes 1, 1, 2, 3, 5, 8, 13 and so on.



Successive numeric terms build a spiral found in nature.

The spiral that Frank drew is repeated throughout nature, in both shells and plants. An example would be the nautilus shell. The spiral for the legs, as drawn by Frank, takes one whole turn before it completes the factor of 1.618 from the center.

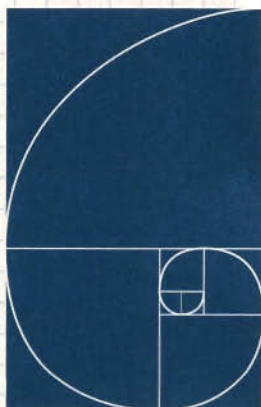
An Italian mathematician from the 11th century plotted this ratio. The Fibonacci sequence of numbers describe a set of rectangles, whose sides are two successive

Fibonacci numbers in length, and which are composed of squares with sides that are Fibonacci numbers 1, 1, 2, 3, 5, 8, 13.

We draw the spiral by plotting quarter circles, one in each new square.

This is the Fibonacci spiral. This pattern was applied to two faces of each leg. Different color

ink pens were used to demarcate inner and outer edges of the carved area, so I would know a bevel line from a straight cut. The beveled edges were cut with a skew chisel, and the straight sides with a Sloyd carving knife.



Drawing the spiral is as simple as connecting the dots!

Fire Up the Machines

I started the process with the legs, as they were complex and would require a great deal of machining to complete. The Chinese variation on cabriole features the same knee, calf and foot common to all cabriole. To work through all the complexities of the legs, I decided to make a pair of full scale mock-ups out of yellow poplar. I laid out the curves on the poplar faces and passed them through the band saw. As is typical with cabriole legs, I then taped the sawn-off pieces back onto the blank, turned it 90° and sliced the other curve, again using the band saw. This gives the cabriole its distinctive look, with the leg projecting out from the corner of the piece, providing a graceful external curve.

I sent one of the poplar blanks to Frank Shirley. We decided that the curved foot as drawn in the plans was not large enough, and the patterns were adjusted to give the foot of the leg a bit more curve. These mock-ups were invaluable to the process. The poplar blanks allowed us to study and make adjustments, before any legs were sawn from far more expensive teak stock.

I now moved on to squaring up the 16/4 teak required to make the legs (pieces 1). The cabriole curves were laid out, but before the blanks were band sawn, I began the joinery to accept the waist moulding connections, the bracing and the aprons. It is best to do this work before you cut the flowing curved shapes onto the legs. On your table saw, with a dado head installed, crosscut



Not a Task for the Fainthearted: The cabriole legs on these benches are complicated and difficult to make. The legs and aprons are joined in three planes, masked by a visible miter. Blind mortises and tenons give the joint strength, a raised post gives the waist moulding a large glue surface and the miter provides the corners a simple yet elegant appearance.

Cabriole Legs in the Chinese Fashion

the rabbets at the top of the leg to provide a large glue area for the side, front and back waist mouldings (pieces 2 and 3). The side waist moulding is created from solid teak boards. The front and back waist mouldings, like a great many of the components of this bench, are made up of laminated teak strips. Again on the table saw, but with a narrower dado head in place, I plowed mortises into the faces of two sides of the leg (see the *Drawing* at right) to capture tenons of the side, front and back braces (pieces 4 and 5).

The braces become the connecting members between the legs. Like the waist moulding, they combine solid wood and laminated strip construction. Completing the internal superstructure are the raised blocking and the cross braces (pieces 6 through 8), which will be addressed later, after the seat planks are created.

The final machining process while the legs remain stucked up is forming the miters to accept the curved aprons. It's kind of a shame that after all this slick machining, all you see after assembly is the simple miters between the leg and apron. Look to the *Drawings* and the *Pinup Shop Drawing* on the center pullout for additional joinery details.

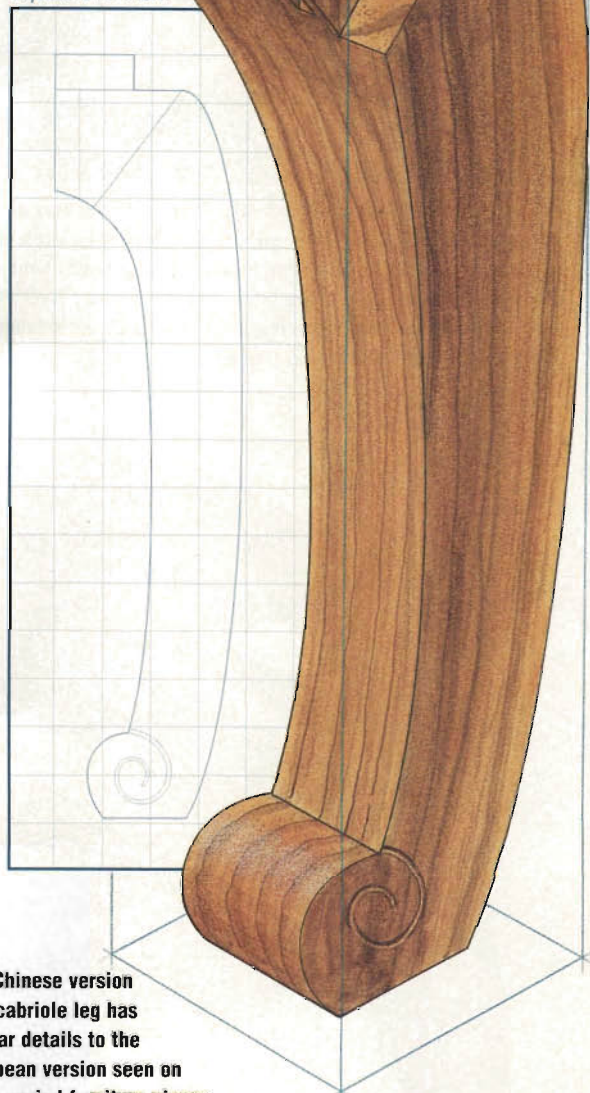
Now, the legs were ready to be band sawn to their final shape. The spiral carvings were added later. With the leg blanks made, it was time to focus on the curved planking needed for the tops of the benches.

Curved Laminated Planks

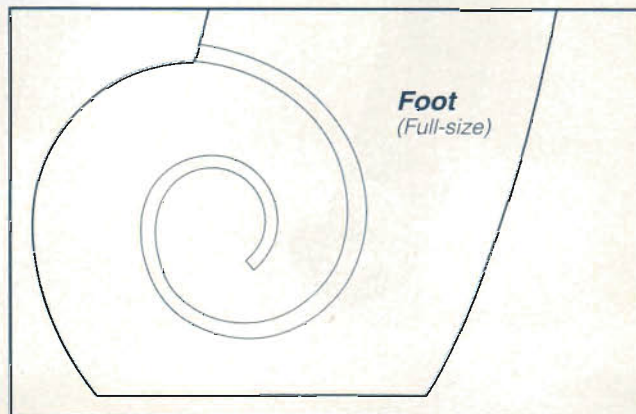
These benches were designed to be out in the weather all summer long. I believe that the many laminations used per plank will help reduce the chances of structural problems later in the life of the benches. The outermost and innermost seat planks were 3 1/4" in width and had an extended lip on their outboard edges. These lips, along with the endcaps, capture raised blocking and locate the top on the base subassembly. The four intermediate seat planks were 2 3/4" wide and are of uniform thickness across their width.

Early on, I attempted to steam bend full 6/4 teak laminates of 1" width. I was not successful. Sawn curves were also discussed, but the amount of waste generated by the sawn method would be too high. As you'll see in the *Drawing* on the following page, the arc (the amount of bend in each lamination) increased dramatically from the outer edge of the seat to the inner edge.

One square equals one inch.



The Chinese version of a cabriole leg has similar details to the European version seen on many period furniture pieces.





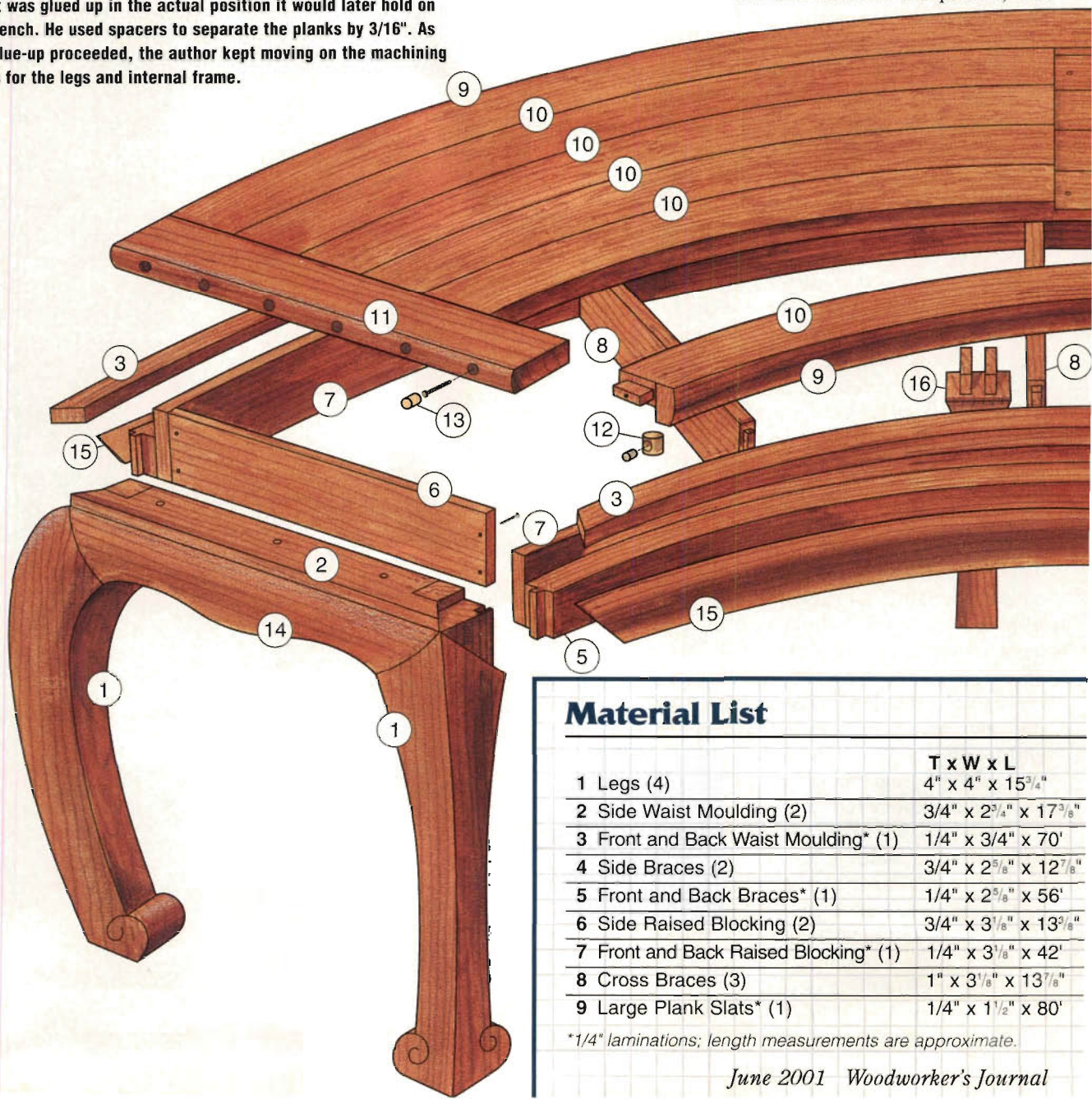
A Slow, Meticulous Glue-up: There's just no way to rush a glue-up of this scale. In the author's shop-made jig, each seat plank was glued up in the actual position it would later hold on the bench. He used spacers to separate the planks by 3/16". As the glue-up proceeded, the author kept moving on the machining steps for the legs and internal frame.

That increasing arc meant that very narrow strips of teak were more suitable to this process than thicker laminates. In the end, 12 to 15 laminates were needed to create each plank.

Bending Jigs and Bench Dogs

Full-size bending jigs were made on two connected 5' x 5' sheets of 1" baltic birch plywood. The bench tops were laid out to their actual arc, and oversized for their length. A series of bench dogs were through bolted around the outside of the outer arc. These dogs were then skinned with layers of thin laminates to the actual arc, and served as a clamping surface. We needed 72 lengths of the teak (pieces 9 and 10) per bench to make the six planks for the planking.

West System® epoxy was my adhesive of choice for this project. I know there is a lot of discussion in the trade as to whether West and teak are compatible, but



Material List

	T x W x L
1 Legs (4)	4" x 4" x 15 ³ / ₄ "
2 Side Waist Moulding (2)	3/4" x 2 ³ / ₄ " x 17 ³ / ₈ "
3 Front and Back Waist Moulding* (1)	1/4" x 3/4" x 70'
4 Side Braces (2)	3/4" x 2 ⁵ / ₈ " x 12 ⁷ / ₈ "
5 Front and Back Braces* (1)	1/4" x 2 ⁵ / ₈ " x 56'
6 Side Raised Blocking (2)	3/4" x 3 ¹ / ₈ " x 13 ³ / ₈ "
7 Front and Back Raised Blocking* (1)	1/4" x 3 ¹ / ₈ " x 42'
8 Cross Braces (3)	1" x 3 ¹ / ₈ " x 13 ⁷ / ₈ "
9 Large Plank Slats* (1)	1/4" x 1 ¹ / ₂ " x 80'

*1/4" laminations; length measurements are approximate.

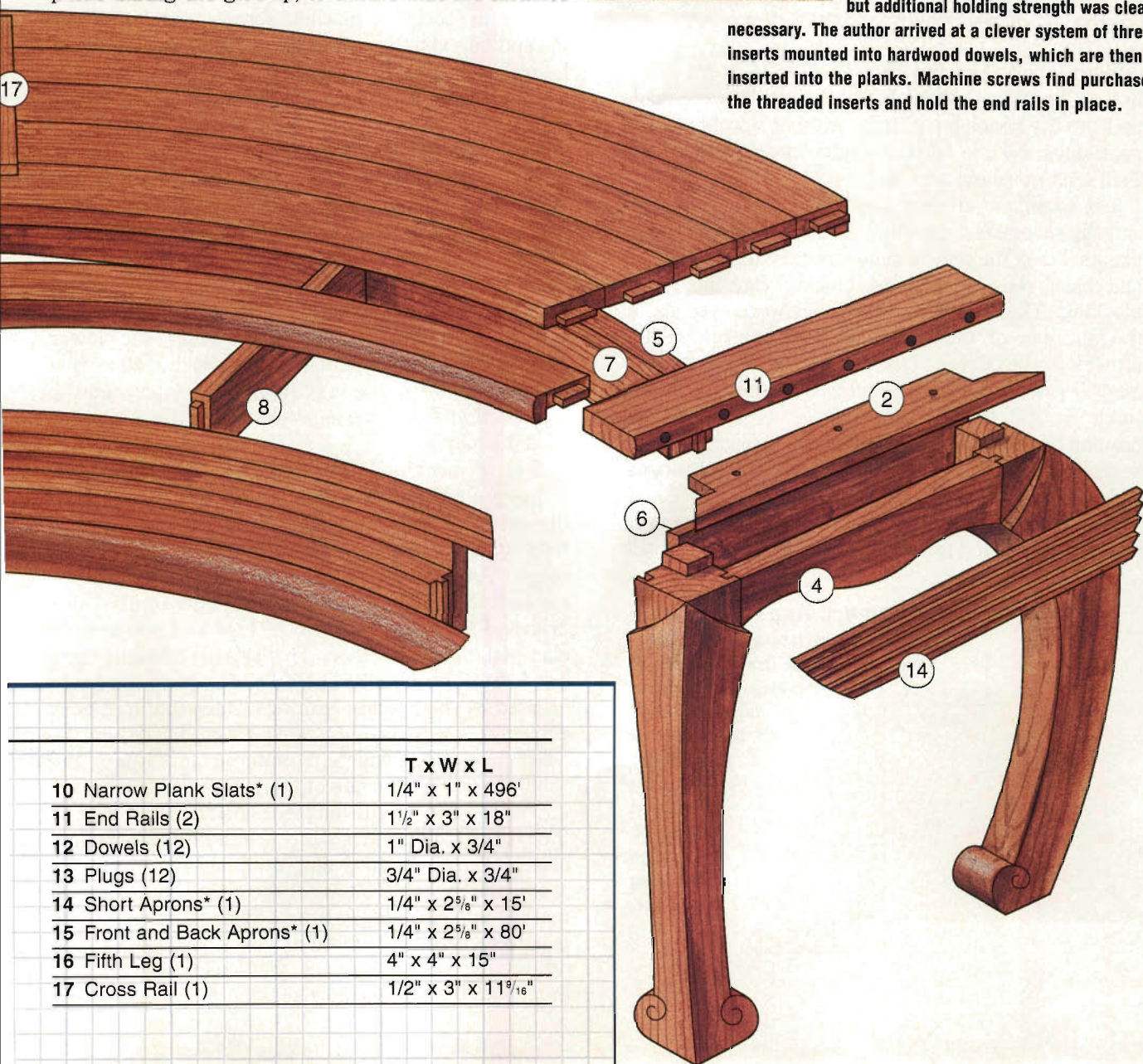
my experience has been that the West epoxy is far and away more desirable to use than the other exterior glues available. Teak is naturally oily, so in order to prepare the surface for glue-up I washed the laminates in denatured alcohol just prior to applying the epoxy. Each laminate was surfaced with epoxy, drawn against the bench dogs, and left clamped for 36 hours.

To keep the various clamped up pieces from sticking to the fixture, butcher's wax was applied beneath the glue area and all over the jig. This acted as a release agent and saved a lot of wear and tear on the jig and the builder! After each curved plank's glue had cured, I removed it from the jig and sanded the excess glue off, taking care to keep it flat. I glued up each successive plank directly in front of the previous plank, in the position it would hold on the actual bench.

To do this, I put spacers between each successive plank during the glue-up, to ensure that the distance



No Simple Breadboard: The end rails were mortised to accept the plank ends, but additional holding strength was clearly necessary. The author arrived at a clever system of threaded inserts mounted into hardwood dowels, which are then inserted into the planks. Machine screws find purchase in the threaded inserts and hold the end rails in place.



	T x W x L
10 Narrow Plank Slats* (1)	1/4" x 1" x 496'
11 End Rails (2)	1 1/2" x 3" x 18"
12 Dowels (12)	1" Dia. x 3/4"
13 Plugs (12)	3/4" Dia. x 3/4"
14 Short Aprons* (1)	1/4" x 2 5/8" x 15'
15 Front and Back Aprons* (1)	1/4" x 2 5/8" x 80'
16 Fifth Leg (1)	4" x 4" x 15"
17 Cross Rail (1)	1/2" x 3" x 11 9/16"



Using the Top as a Template: Glue-up and assembly of the benches' internal frame was done while it sat on top of the completed seat plank subassembly. This proximity helped to ensure that the construction process moved along smoothly.

between planks remained a consistent 3/16" (as drawn in the *Elevations*). All in all, a dozen planks were made up from the bench top glue jig, without a problem. The next steps were to fair the planks, clean them up and then a bit more machining.

Just to throw another tiny curve at you — well, actually several curves — during the glue-up of the seat planks, I took the time to laminate and glue up the front and back waist mouldings, bracing and the raised blocking. These long curved pieces were essential to the success of the benches. Their curves related directly to the curves of the seat planks (see the *Pinup Shop Drawings* for their *Elevations*). In fact, I used the same jig and created these pieces as their relative position on the bench was available on the jig during the seat plank creation process. This turned a nearly impossible job into a merely tedious one.

Now, back to the seat planks. I cut the ends of each plank to length and raised tenons on both ends. I made

solid teak end rails (pieces 11) and chopped mortises to fit the tenoned plank ends. I decided to use machine screws and metal threaded inserts for additional holding strength between the planks and the end rails. But, because of its inherent weakness, I didn't want to depend on end grain to hold the threaded inserts. For that reason, a long grain dowel (pieces 12) was bored into each plank end and glued in from the bottom. A threaded insert was then installed into each of the long grain dowels.

Holes to accept the machine screws were bored into the end rails and the entire subassembly was test fitted. I turned to the West System epoxy and glued and assembled the seat for good ... there was no turning back now. I plugged (pieces 13) the screw holes on the end rails and sanded them smooth. At this point the main component parts of the bench seat and the legs were complete, and I had finished the carvings on the legs during the time spent making the curved planking.

Lower Assembly

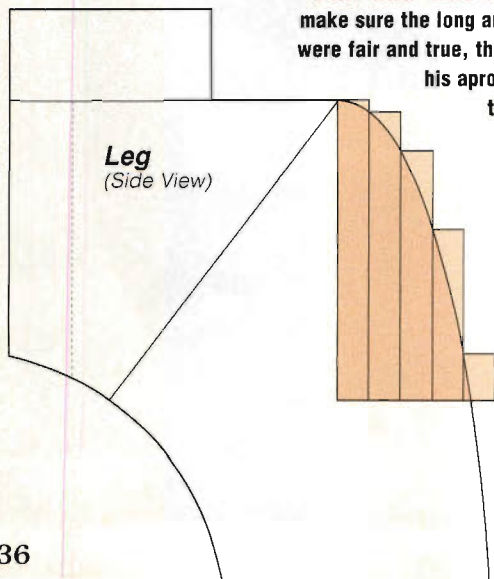
Now that the seat subassembly was ready, I turned it upside down and started assembling the lower superstructure in position ... just to be sure that everything was going together well. I separated the seat section from the leg assembly with a layer of waxed paper.

First, I machined the side and front and back bracing. On the table saw, I formed tenons to match the mortises on the legs. (You might need a little help handling the long curved pieces during these steps.) Additionally, I used my band saw to cut a curved shape onto the bottom edge of the side braces. I fit these pieces to the legs and temporarily clamped them together. The raised blocking now needed to be cut and trimmed to fit within the space created by the bracing and legs. Once that had been achieved, I was ready to move on to dry fitting the waist moulding, which is mitered to fit into the rabbet on the very ends of the legs.

Even though the curved pieces had been created on the same jig, there was plenty of sanding, planing and chiseling to get a good fit. Now I laid out where the cross braces would intersect the raised blocking and marked out for their mortises. I made the cross braces from solid teak and plowed mortises with the router.

I started the glue-up of the lower assembly by putting epoxy into the mortises where the bracing was

Fair and True Aprons: To help make sure the long arcs of the aprons were fair and true, the author stacked his apron laminations so their joints would provide horizon lines. As long as the horizon lines were parallel, he knew everything was fine.



Sticking with a glue that works



West System® epoxy was the author's choice for the hundreds of laminations required to build these benches. Long a staple in the boat building trades, West System epoxy is available with catalysts of various open times, quite useful in large projects such as these benches.

joined. I clamped up the bench on top of the completed seat assembly as shown in the photo on the opposite page. After the glue had cured, I screwed and glued the waist moulding in place and started in on the aprons.

The short apron (pieces 14) pieces were laminated, then tenoned and mitered onto the legs. I could have made these from solid teak, but I used laminations to match the long aprons on the front and back (pieces 15). I created the front and back aprons from built-up laminations, staggering each layer in height, reducing it slightly with each layer, as shown in the *Drawing* on the facing page. When it came time to fair the curves, I knocked the high points off and the correct curve was achieved. Each lamination created its own horizon line, so when the curve was fair, the lines were straight. I shaped the rear aprons with a simple jack plane. The convex front aprons I faired with a draw knife, spoke shave and chisels. The intersection of front leg and apron was finished with gouges and extra care.

At this point I installed the raised blocking and the cross braces and felt like I was really making progress.

I created an intermediate fifth leg (piece 16) for the middle of the rear arc. This leg did not have

the true cabriole shape of the end legs. Frank and I drew the center leg up with some of the curves of the cabriole, so it would mimic the curves of the apron and legs. This leg was then mortised, fitted and glued over the cross brace. Frank also wanted the top bench to seat two persons, and for that reason a center rail detail, dividing the bench into two distinct seats, was created. The four inner planks were routed 1/2" in depth to receive this cross rail (piece 17). I attached the cross rail with screws driven up from the

bottom. I also predrilled holes into the cross braces to capture screws which would secure the seat assembly.

Six Quick Weeks Later: Ready to Finish

The benches were now assembled and sanded through 400 grit. Six weeks had elapsed from the first machining to applying the finish. I applied several coats of teak oil to all the surfaces, until I felt that I had sealed the teak. In choosing teak, Frank and

I presumed that there would need to be an annual application of the teak oil to prepare the benches for their seasonal use. No one was inclined to maintain a varnished finish, so the teak oil was our best solution.

I had started the project in March, and in late June brought the benches to the site. The gazebo was already assembled in the garden, the plantings were in place, and the benches began their service.

A Worthy Residence:

Ready to provide years of service, the newly completed garden benches found a home in their equally new gazebo ... somewhere on Martha's Vineyard.



Author John Thayer is a New England woodworker with the patience of Job.

PLANS, PLANS, PLANS ...

Woodworker's Journal magazine has over 1,300 project plans available. We offer reprints and back issues of both the Journal and Today's Woodworker and an assortment of unique plans. Shown here are some of our bestsellers.

For the rest of our great plans, log on: www.woodworkersjournal.com.



STEAMER TRUNK I

A classic design from days gone by. The kit includes trunk and center corners, a spring lock, hasps, leather handles, unpinned loops, hinges and lid supports.

52304 Plan (RVH)	\$9.99
94441 Hardware Kit	\$44.99

STEAMER TRUNK II

A simplified, smaller version of Steamer Trunk I that's easier to build. This one does double duty as a coffee table.

17310 Plan (TW 47)	\$4.95
23672 Hardware Kit	\$17.99

TOY BOX PLAN

This easy-to-build toy box uses tongue and grooved stock, available at most lumberyards.

Kit includes toy box lid supports and a piano hinge.

40733 Plan (RVH)	\$4.95
52568 Kit	\$13.99



MODULAR KIDS' BUNK BED SET

Rest assured! This kids' bedroom set will change with their needs. Kit includes bed rail fasteners, safety catches and a pair of ladder hooks.

31859 Plan (RVH)	\$14.99
35538 Hardware Kit	\$29.99
32482 Drawer Slides (sets)*	\$13.49
34355 5/4" Drawer Pulls*	\$2.69

*Four required.



JEWELRY BOX

A gem of a jewelry box with keyed dovetail accents, a top compartment and three sliding drawers.

96306 Plan (RVH)	\$8.99
21980 Tie pegs*	\$2.29
62166 Jewelry Box Lid Support	\$11.99
32334 Table Pins	\$9.79
34918 Bumpers	\$1.99

*Two required

FREE!

**36-PAGE SHOP
PROJECTS
BOOKLET**

With your
order of
\$10.00
or more

www.woodworkersjournal.com

Call direct 1-800-610-0883

Shipping & handling fees applicable.

ECONOMY WORKBENCH

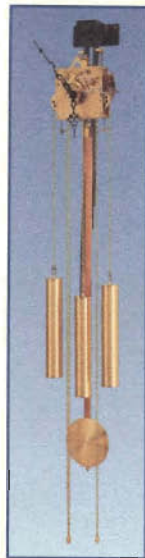
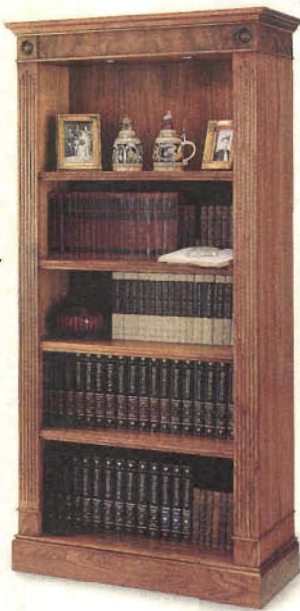
A great workbench that won't bust your budget. The hardware kit includes a Veritas twin screw vise, leveler glides and T-bolt tracks.

52292 Plan (RWH) \$9.99
88379 Hardware Kit . . . \$164.99

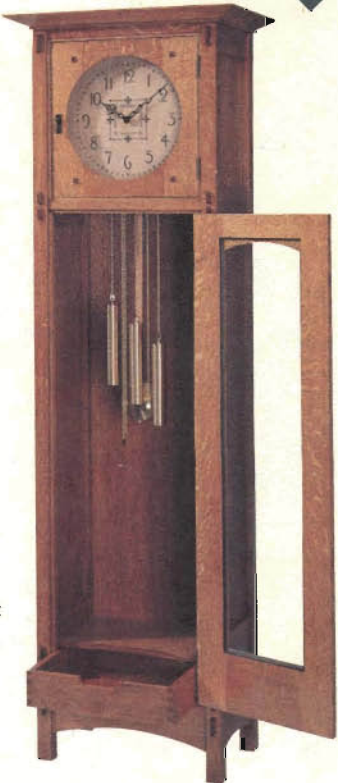
CLASSIC LIBRARY SHELF

Organize and preserve your collection of fine reading in this classically styled bookcase. Plan includes complete step-by-step instructions and drawings. Light kit includes 3 low profile halogen lights with transformer.

74015 Plan (RVWH) . . . \$19.99
44264 Light Kit \$69.99



The Westminster movement chimes at each quarter hour and strikes on the full hour. Features a polished brass bob and includes mounting brackets, weights, hands and chains.



GRANDFATHER CLOCK

This venerable clock design features book-matched side panels, faux tenons and a clock face that we designed ourselves to match this classic.

30286 Plan (RWH) \$14.99
43055 Westminster Movement \$399.00
42990 Clock Face \$17.99
26815 Stickley Pull* \$19.99
27979 Stickley Hinges** (pair) \$6.99

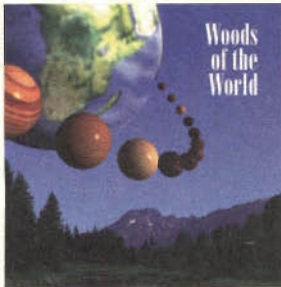
*Two required.
**Three pairs required.



HEIRLOOM CHESSBOARD

Elegant, beautiful and fun. This truly exceptional piece will bring years of enjoyment and pride. Hardware kit includes felt liner, roller catches, antique knobs, Nylo tape and a dowel rod.

17328 Plan (TW 48) \$4.95
34281 Hardware Kit \$19.99



WOODS OF THE WORLD CD ROMS

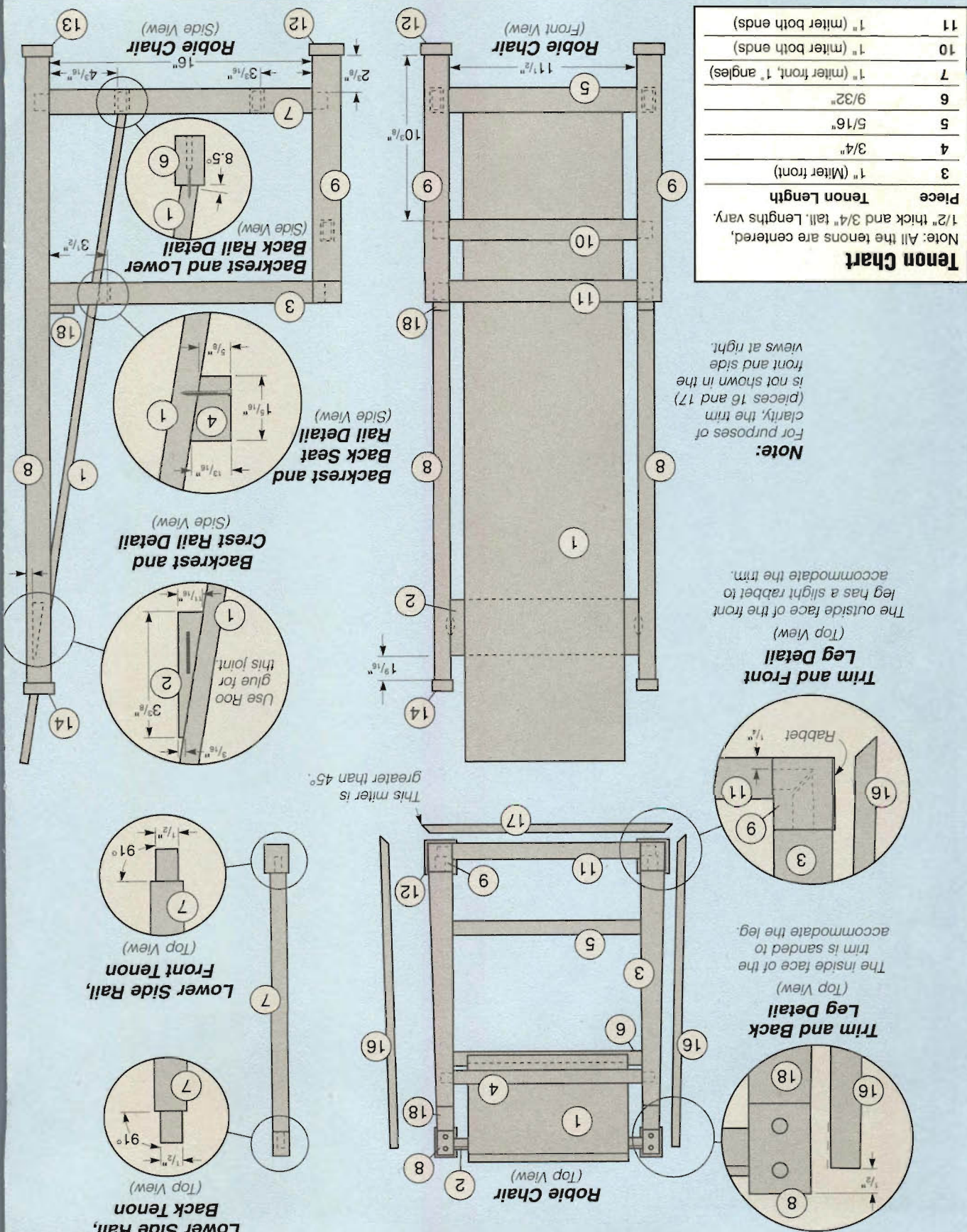
Sit back at your computer for a discovery tour of the world's most fascinating wood species. You'll find full-size photographs, maps, on-line tutorials, sourcing information and even USDA kiln drying schedules! Item 36790 is the most complete information source, covering 910 species, while item 29505 covers information on 435 species.

36790 Woods of the World Pro \$49.99
29505 Wood Match \$29.99

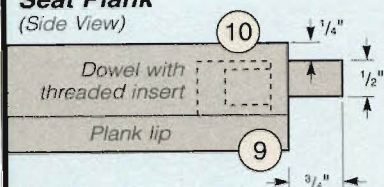
www.woodworkersjournal.com

Call direct 1-800-610-0883

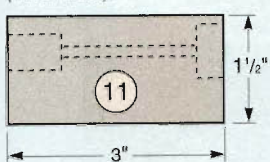
39
Mention code: W1060



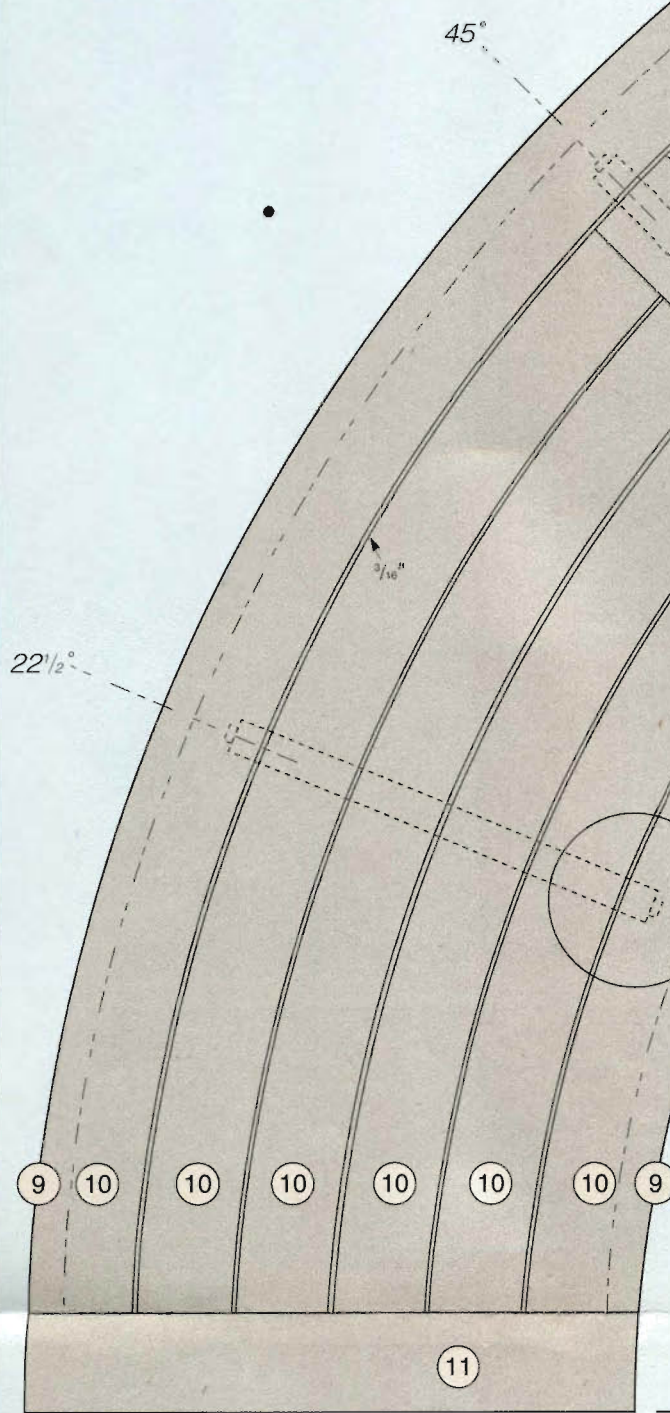
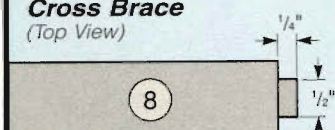
Seat Plank
(Side View)



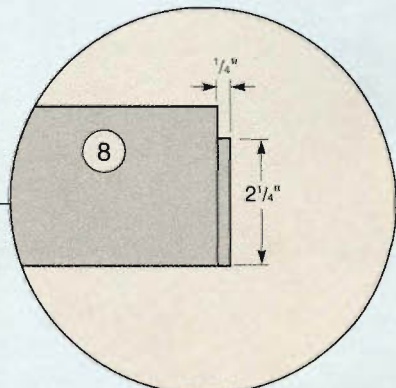
End Rail
(End View)



Cross Brace
(Top View)



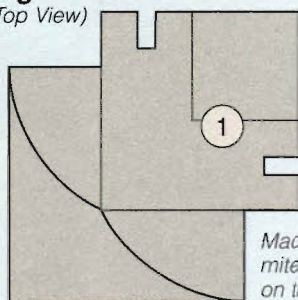
Note: While gluing up the curved seat planks, it's critical that you stop to cut the various long curved members of the bench's superstructure (front and back braces, waist moulding and raised blocking) at their appropriate locations. The section view at right provides the relative location for these pieces. As you get to each piece's position on the bench, use the partially completed seat plank as a mold to glue up perfectly shaped curved structural members.



Cross Brace Tenon Detail
(Side View)

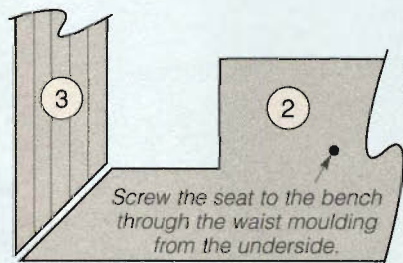
Stopped mortises for these cross braces are plowed into the front and back raised blocking (pieces 7). Lay out the mortises at 22 1/2, 45 and 67 1/2 from the end of the bench.

Leg
(Top View)

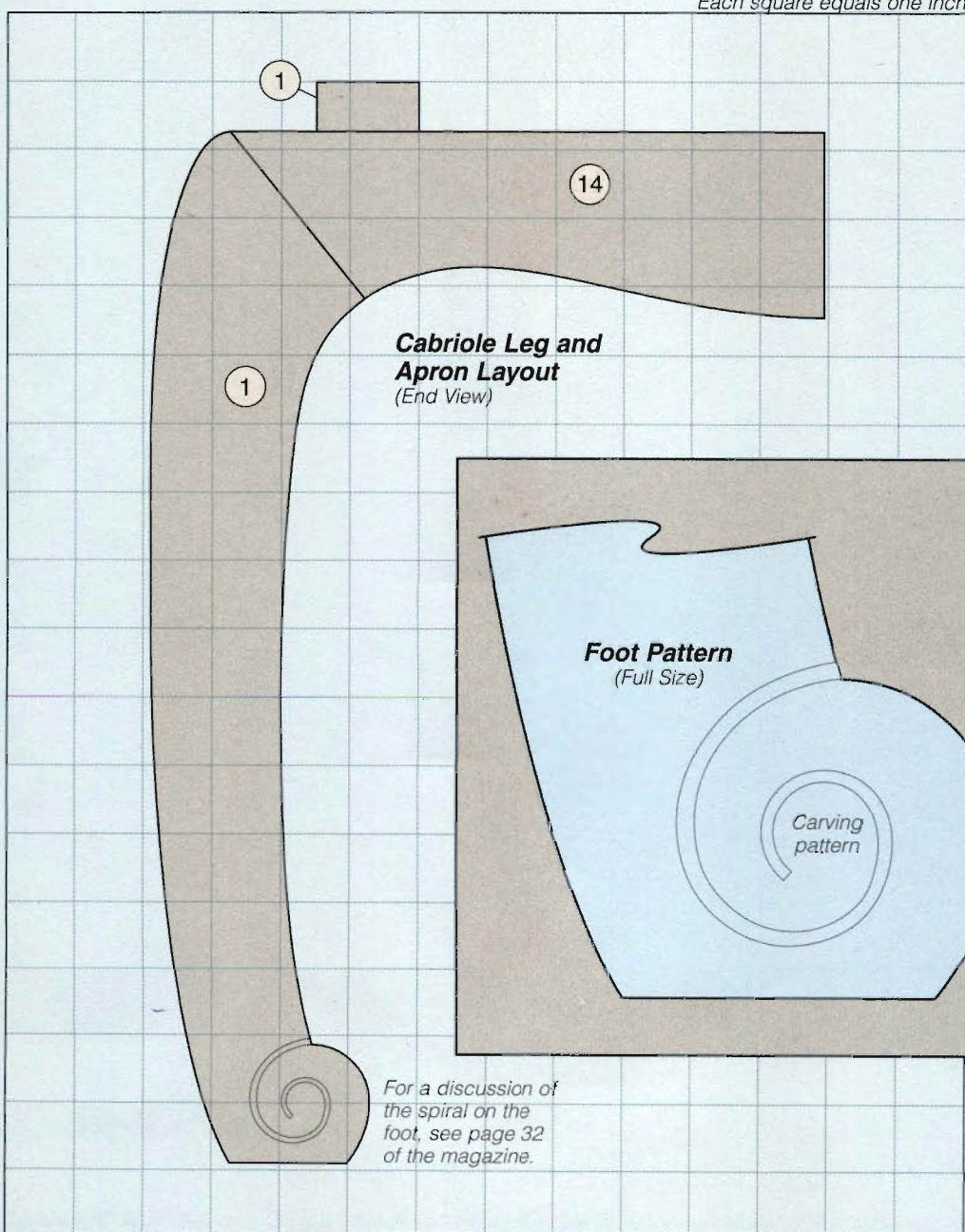


Machine the mortises, miters and raised tenon on the leg before forming the cabriole shape.

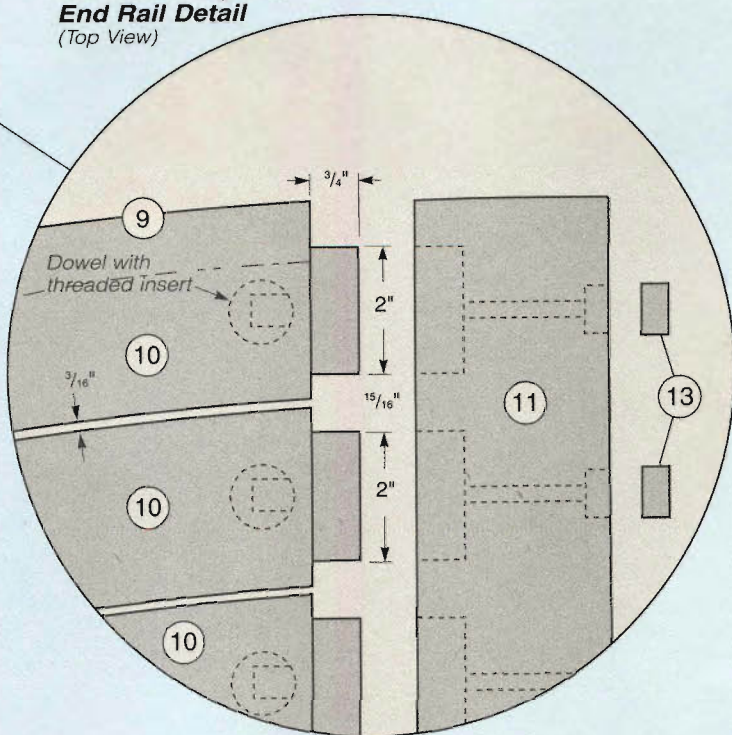
Waist Mouldings
(Top View)



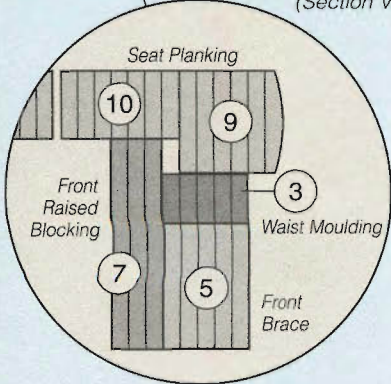
Each square equals one inch.



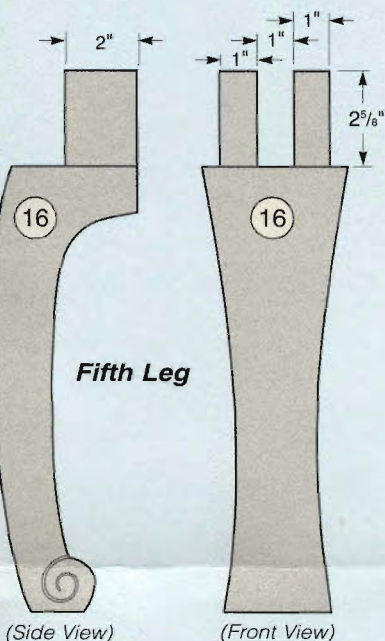
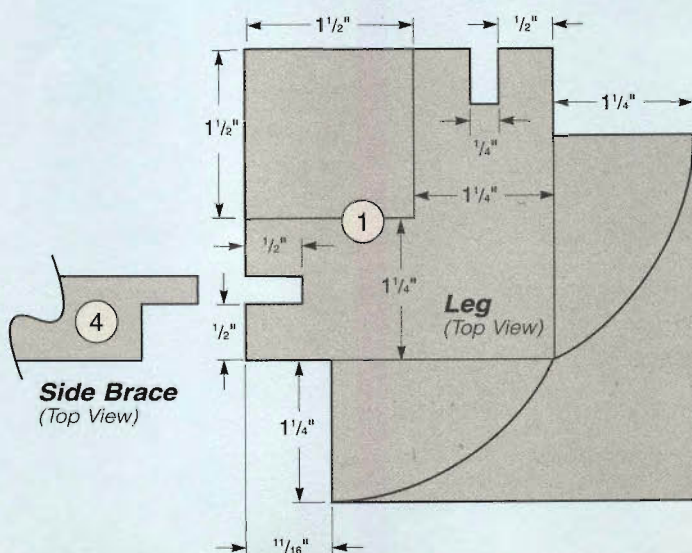
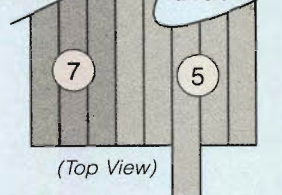
Seat Planking and End Rail Detail
(Top View)



Seat Planking and Cross Members
(Section View)

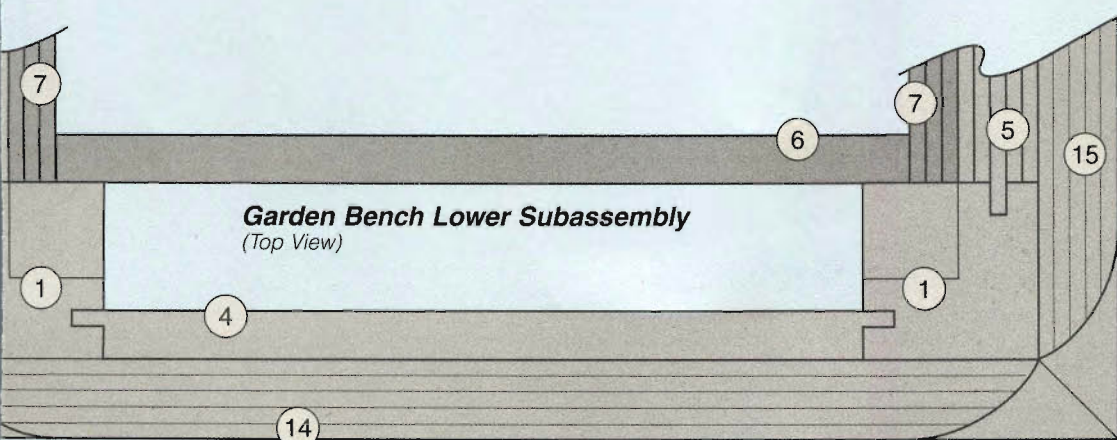


Front Raised Blocking and Front Brace



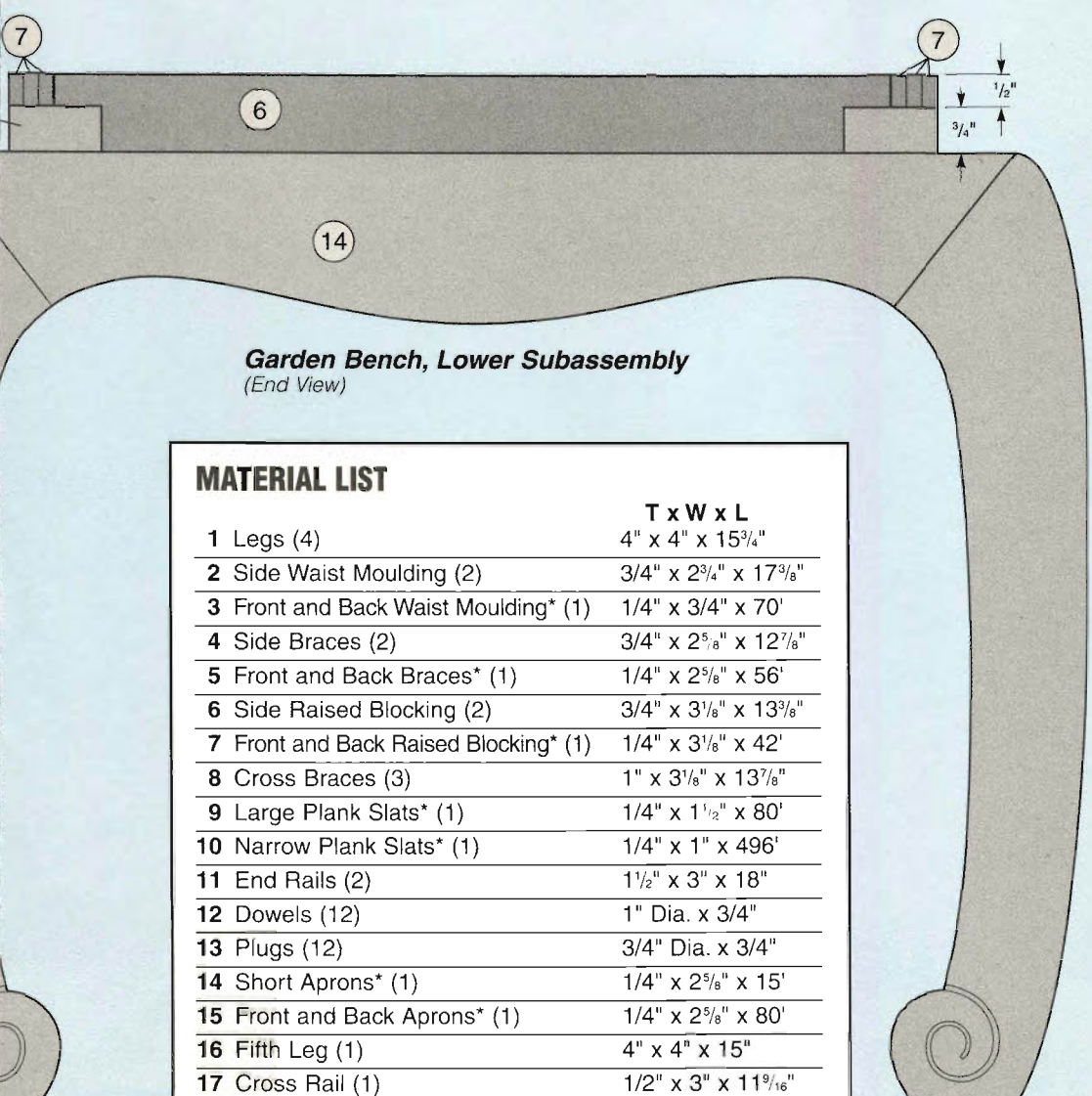
36 5/8" R.

Garden Bench Lower Subassembly
(Top View)



Note: the waist mouldings (pieces 2 and 3) are omitted in these drawings to help clarify relationships between various other pieces.

Garden Bench, Lower Subassembly
(End View)



MATERIAL LIST

	T x W x L
1 Legs (4)	4" x 4" x 15 3/4"
2 Side Waist Moulding (2)	3/4" x 2 3/4" x 17 3/8"
3 Front and Back Waist Moulding* (1)	1/4" x 3/4" x 70"
4 Side Braces (2)	3/4" x 2 5/8" x 12 7/8"
5 Front and Back Braces* (1)	1/4" x 2 5/8" x 56"
6 Side Raised Blocking (2)	3/4" x 3 1/8" x 13 3/8"
7 Front and Back Raised Blocking* (1)	1/4" x 3 1/8" x 42"
8 Cross Braces (3)	1" x 3 1/8" x 13 7/8"
9 Large Plank Slats* (1)	1/4" x 1 1/2" x 80"
10 Narrow Plank Slats* (1)	1/4" x 1" x 496"
11 End Rails (2)	1 1/2" x 3" x 18"
12 Dowels (12)	1" Dia. x 3/4"
13 Plugs (12)	3/4" Dia. x 3/4"
14 Short Aprons* (1)	1/4" x 2 5/8" x 15"
15 Front and Back Aprons* (1)	1/4" x 2 5/8" x 80"
16 Fifth Leg (1)	4" x 4" x 15"
17 Cross Rail (1)	1/2" x 3" x 11 9/16"

* 1/4" laminations, lengths are approximate



FUTON COUCH AND BED

Choose from 3 arm styles. The roller hardware is inexpensive, durable and easy-to-use. Some routing required to install roller hardware. Plan includes full-size pattern for a jig to make the job easy. Together, the two kits include all necessary parts.

37761 Plan (RVWH)	\$12.99
38437 Futon Roller Kit	\$12.99
80154 Futon Fastener Kit	\$10.99



AUTHENTIC JELLY CUPBOARD

Optional tin panels add a touch of history to this classic reproduction. The hardware kit includes a lock, the keyhole escutcheon, elbow catch and three pairs of hinges.

97271 Plan (TW 34)	\$4.95
36707 Hardware Kit	\$25.95
21709 10"x14" Tin*	\$3.99

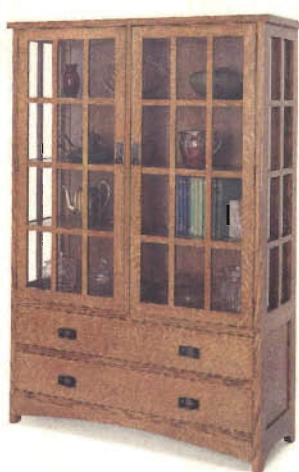
*Six required.



ARTS & CRAFTS HUTCH

A Rick White Classic! The hardware kit features four drawer pulls and two door pulls made by the Stickley Company, contributing to this hutch's strong Arts & Crafts style. The kit also includes three pairs of door hinges, two sets of Accuride® slides, four ball catches and support pins for the shelves.

52244 Plan (RVWH)	\$12.99
46938 Hardware Kit	\$179.99



MISSION GLIDER CHAIR AND OTTOMAN PLAN

This chair and ottoman feature a bold, sturdy and practical look characteristic of the Mission style. The chair measures 41" H x 25 1/2" W x 33" D. Hardware kit includes floor guides, dowels, eight pivot hinges and chair webbing with metal ends.

52088 Plan (RVWH)	\$14.99
12171 Hardware Kit	\$79.99
51243 Pivot Hinge	\$6.99



ENTERTAINMENT CENTER III

This classic brings new meaning to the phrase "a place for everything and everything in its place." Two hardware kits are available, one with the slides and hinges and the other with the handles, knobs and supports.

52232 Plan (RVWH)	\$9.99
39009 Hardware Kit I	\$199.99
Accuride® drawer and flipper door slides and hinges	
39017 Hardware Kit II	\$79.99
Screws, plugs, handles, knobs and shelf supports	

46

www.woodworkersjournal.com

Mention code:
W1060

Call direct 1-800-610-0883

WOODWORKER'S JOURNAL
Box 261, Medina, MN 55340-0261.
© 2001, Woodworker's Journal magazine.
All rights reserved.



All the elevations and detail drawings you'll need to build this challenging project. Full size pattern for the cabriole leg's feet.

Curved Garden Bench



Robie Chair
Frank Lloyd Wright's famous dining room chairs. We've included all the elevation drawings and joinery details necessary to help you create these stunning pieces of furniture.

- Open staples carefully, remove pattern and fold staples back in place.
- Use graphite paper (available at art supply stores) or cut and trace full-size patterns onto your stock.
- Cut out the elevation drawings and pin them to your shop wall.

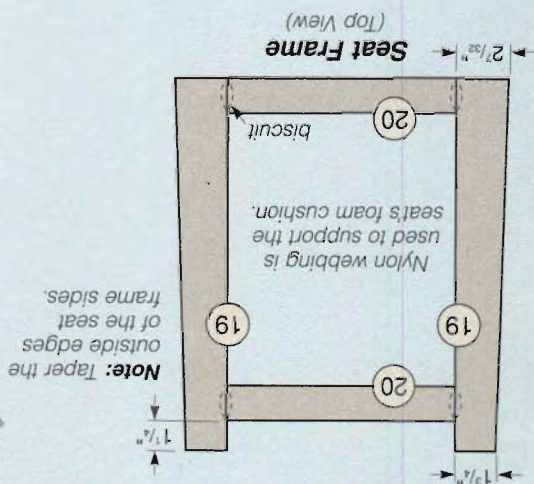
PINUP SHOP DRAWINGS

Full-Size Patterns

MATERIAL LIST

1 Backrest (1)	1/2" x 9 3/4" x 39 7/8"
2 Crest Rail (1)	1 1/16" x 3 3/8" x 1 1/2"
3 Side Seat Rails (2)	1 7/16" x 1 5/16" x 18"
4 Back Seat Rail (1)	13/16" x 1 5/16" x 13"
5 Lower Front Rail (1)	7/8" x 1 1/2" x 12 5/8"
6 Lower Back Rail (1)	7/8" x 1 1/2" x 12 3/8"
7 Lower Side Rails (2)	13/16" x 1 1/2" x 18"
8 Back Legs (2)	1" x 1 1/2" x 38"
9 Front Legs (2)	1 1/2" x 1 3/4" x 15"
10 Middle Front Rail (1)	7/8" x 1 1/4" x 13 1/2"
11 Top Front Rail (1)	1" x 1 5/16" x 13 1/2"
12 Front Feet (2)	1 1/16" x 1 7/8" x 2 7/8"
13 Back Feet (2)	1 1/16" x 1 3/8" x 1 7/8"
14 Back Leg Caps (2)	1 1/16" x 1 3/8" x 1 7/8"
15 Cap and Foot Dowels (12)	1/4" Dia.
16 Side Seat Trim (2)	1/2" x 1 3/4" x 19 5/16"
17 Front Seat Trim (1)	1/2" x 1 3/4" x 15 5/16"
18 Seat Stops (2)	1/2" x 1" x 1 1/2"
19 Seat Frame Sides (2)	3/4" x 2 7/32" x 16 1/16"
20 Seat Frame Front & Back (2)	3/4" x 1 1/2" x 9 15/16"
21 Seat Webbing (1)	3 1/2" x 50"
22 Seat Foam (1)	1" x 17" x 19"
23 Seat Muslin (1)	17" x 19"
24 Seat Cover (1)	17" x 19"

T x W x L





DELUXE MURPHY BED BOOKCASE SYSTEM

Get this stylish look using our plan and lighting kits. Each bookcase kit includes one swivel incandescent light and one push-button switch. Bed box kit contains two swivel incandescent lights and a three-stage dimmer switch (25%, 50%, 100% and off).

31942 Bookcase Plan*	\$12.99
31953 Single Bookcase/Light Kit	\$24.99
31965 Murphy Bed Box/Light Kit	\$59.99
89616 Vertical mount hardware, Twin	\$229.00
89624 Vertical mount hardware, Full	\$229.00
89632 Vertical mount hardware, Queen	\$229.00

*The bed plan is included (FREE) with the last three items.



TEDDY BEAR ROCKING CHAIR

Have a grandchild? A niece? A deserving neighbor kid? This playful little rocking chair, which you can build in a weekend with common hand-held power tools, is irresistible to anyone under the age of 4. One of our all-time best selling plans!

46995 Plan (RVH) . . . \$7.95



800-610-0883

Plus: over 1,300 plans on the web
www.woodworkersjournal.com

Mention code: W1060 when calling

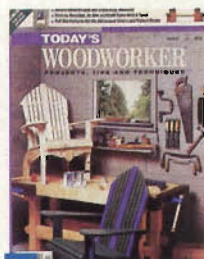


JEWELRY BOX

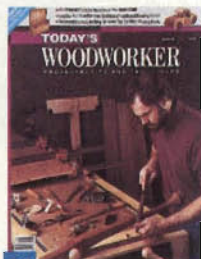
Surprise someone with this gem of a box. Kit includes solid brass stop hinges, brass lock, key and a set of tray lift supports.

97289 Plan (TW 35)	\$4.95
50807 Hardware Kit	\$49.99

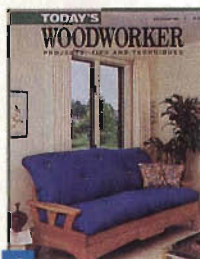
Today's Woodworker Bestsellers: Merged with Woodworker's Journal in 1998, many of the Today's Woodworker back issues are still available! Go to www.woodworkersjournal.com for more examples of the unique designs from this classic magazine!



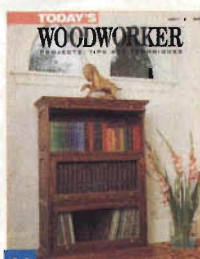
21 Adirondack chair, scroll saw project, deck set, sofa table.
79673\$4.95



25 Flammable storage cabinet, workbench, toy car, country settle.
88965\$4.95



4 Futon sofa bed, KD fittings, blanket chest, antiquing techniques.
38448\$4.95



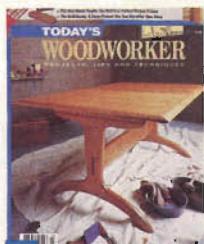
11 Barrister Bookcase featured in this issue is available as a RWH plan.
52208\$9.99



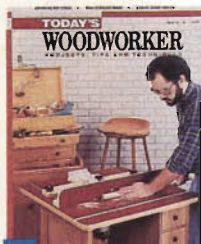
42 Hobby box, card player's coasters, salmon cutting board, race car.
59048\$4.95



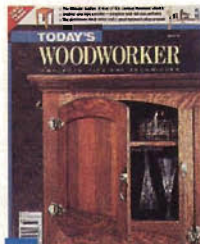
24 Serving tray, dining chair, entertainment center, tree ornaments.
79707\$4.95



23 Trestle table, drill bit cabinet, three weekend gift projects.
79699\$4.95



13 Router table, bar stool, tips on buying a new biscuit jointer.
68700\$4.95



33 Old Time Icebox featured in this issue is available as a RWH plan.
33998\$9.99



46 Mahogany humidor, LEGO® center, oriental redwood arbor.
17302\$4.95



10 The classic corner cabinet in this issue is available as a reprint.
36579\$3.95



49 Wooden clamp, CD storage cabinet, router table, entryway bench.
21775\$4.95

www.woodworkersjournal.com

Call direct 1-800-610-0883

Shipping and handling fee applicable.



Robie House Chair

By Mike McGlynn

True to the spirit of Frank Lloyd Wright, this historical study in woodworking uses the latest joinery techniques and materials.

Nearly three years ago, I was asked to build a dining table by clients whose goal was to enrich their Purcell & Elmslie designed home. The table was to be made of quartersawn white oak, and would reflect many of the essential design elements of their house. This past year, these same clients returned with a request to complete the project by adding eight dining chairs.

The chairs they had in mind were originated by Frank Lloyd Wright. He used interpretations of this same design in several projects, including the Robie House, the Hillside home school, the Larkin administration building and his own Oak Park residence, to name a few. The variation we chose is from the Robie house, as it is a little fancier with its leg caps and feet.

Start with a Storyboard

For simplicity's sake and future reference, I work out each design full-size on pieces of 1/4" MDF. This works much better than paper, as it always lies flat and provides an easy way to take precise measurements. I usually draw between three and five views of the chair: front and side views, and as many section (plan) views as I need to explain the relationships of the pieces. For this chair, I had two section views — one at seat level and the other at the level of the lower stretchers. These four views allow me to see every piece, all the joints and their full-size relationships.

To match the table made previously, we chose to make the chairs from quartersawn white oak. For those who are interested in style specifics, this is also the wood that Wright originally used. I should make a few points here about quartersawn white oak, and my increasing problems with it. In the last five years or so I have noticed a steady degradation in the quality of available stock. This is especially true in thicker pieces. The problems include extreme warping after cutting, loose flake edges and tiny surface cracks and fissures that are only visible after milling. I don't have a definitive answer to the cause, or causes, of these problems, but I think it is some combination of trees harvested too soon and improper kiln drying.

"In the last five years or so I have noticed a steady degradation in the quality of quartersawn white oak."

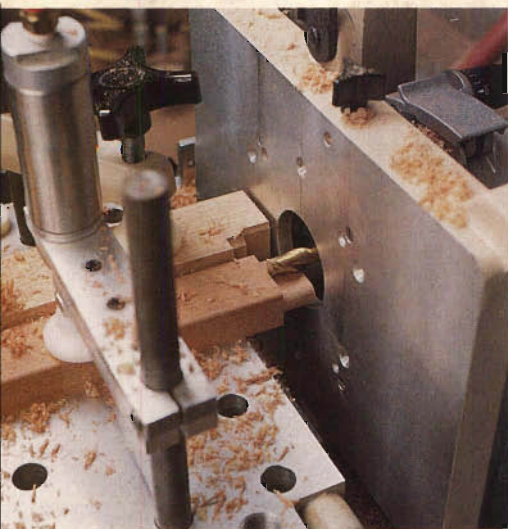
Mike McGlynn



The backrest is book-matched, quartersawn white oak. After resawing, the author allows his boards to adjust their moisture content before gluing and planing to final size.

In my opinion, these problems can be traced to overzealous timber companies who are more interested in profit than quality. As a result of these challenges, if the species hadn't already been determined by Wright, I probably would have built these chairs out of cherry or Honduras mahogany — and purists be damned.

In an attempt to prevent some of the problems described above, the first thing I did was to cut my rough white oak boards to slightly oversized lengths and let them sit in my shop for one month. Once the wood was acclimated, I took the extra step of milling all the parts to about 1/4" oversized in all dimensions and then let them sit for another few days. Then I straightened them on the jointer and milled them to actual size. While I waited for these parts to adjust, I re-sawed some boards for the backrests.



The author uses a dedicated router machine to mill his mortise and tenon joints. Another good choice is a mortising fixture designed for the drill press, coupled with a tenoning jig for the table saw.

As you can see from the *Drawings* at right and *Pinup Shop Drawing*, each chair backrest (piece 1) is a 1/2" thick board. It would be possible to make this out of either a single board or several glued up laminations, but for appearance I found it best to resaw a 1 1/2" thick board into two pieces, as shown in the photo on page 53. Allow the boards to adjust their moisture content, then edge glue them in book-matched fashion. Plane them after the glue dries. This provides a nicely symmetrical figure to the grain of the large — and therefore highly visible — backrests.

Fire Up the Tenoning Jig

Milling the rectilinear parts for each chair (pieces 2 through 11) is very straightforward. Refer to the *Material List* and cut each part to size. The crest rail (piece 2), side seat rails (pieces 3) and the back seat rail (piece 4) will require additional work.

Shape the angled crest rail by running it vertically past an appropriately tilted saw blade (see the photo on the top of page 52), and then clean it up with a 1/32" pass on the jointer. Picking off the angle for the saw blade is one area where the full-size drawing came in handy!

The side and back seat rails are best left in a rectilinear form until tenons (see *Drawings*) have been cut on their ends. With a couple of exceptions, the primary joints on this chair are mortise and tenon. I use a multi-router mortise and tenon machine to cut these joints. If you don't have access to such a machine, go ahead and cut them on pieces 3 through 7 and 10 and 11 with a tenoning jig on the table saw, and a drill press mortising attachment. Most of the tenons are at right angles, the exceptions being those on the lower stretcher assembly which have shallow angles to them (see the *Pinup Shop Drawings* on the center pullout).

Some Controversial Joints

Beyond the mortise and tenons, there are three other kinds of joints in this chair, and I'll cover them before I describe the assembly of the chair, so you can work with them in mind. The first (and most painful for a purist) is the biscuit joint that attaches the crest rail to the back legs. The problem with the crest rail is that it is too small in section to allow the use of a tenon, or even a dowel. The best way to make this joint would probably be with two or three plugged screws from the outside of the leg, but this would obviously be aesthetically unacceptable. As Wright favored using modern technology to improve a traditional process, so have I become a qualified biscuit user, especially with epoxy glue. As you can see from the illustration at right, it is important to lay out the biscuit centerlines correctly (see photo on page 52) and to accurately set your biscuit joiner depth. It goes without saying that you need to make sure you are indexing off the

correct face: believe me, I know from personal experience that this can be a problem.

The second type of joint involves the screws that attach the back to the bottom rail, and also to the seat rail. The placement of these screws is very important. They have to get the most bite, and can't come out in the wrong place. Predrill their holes on the drill press, for accuracy.

Where the leg caps and feet (pieces 12 - 14) are attached, we find our third type of joint. These joints involve 1/4" diameter dowels (pieces 15). Set up the drill press with a fence and two stops to drill the caps and feet (remembering that there are two different sizes — front and back). The photo at the bottom of page 52 shows how I drilled corresponding holes in the feet and legs. After the holes are drilled, glue and clamp the feet and caps in place.

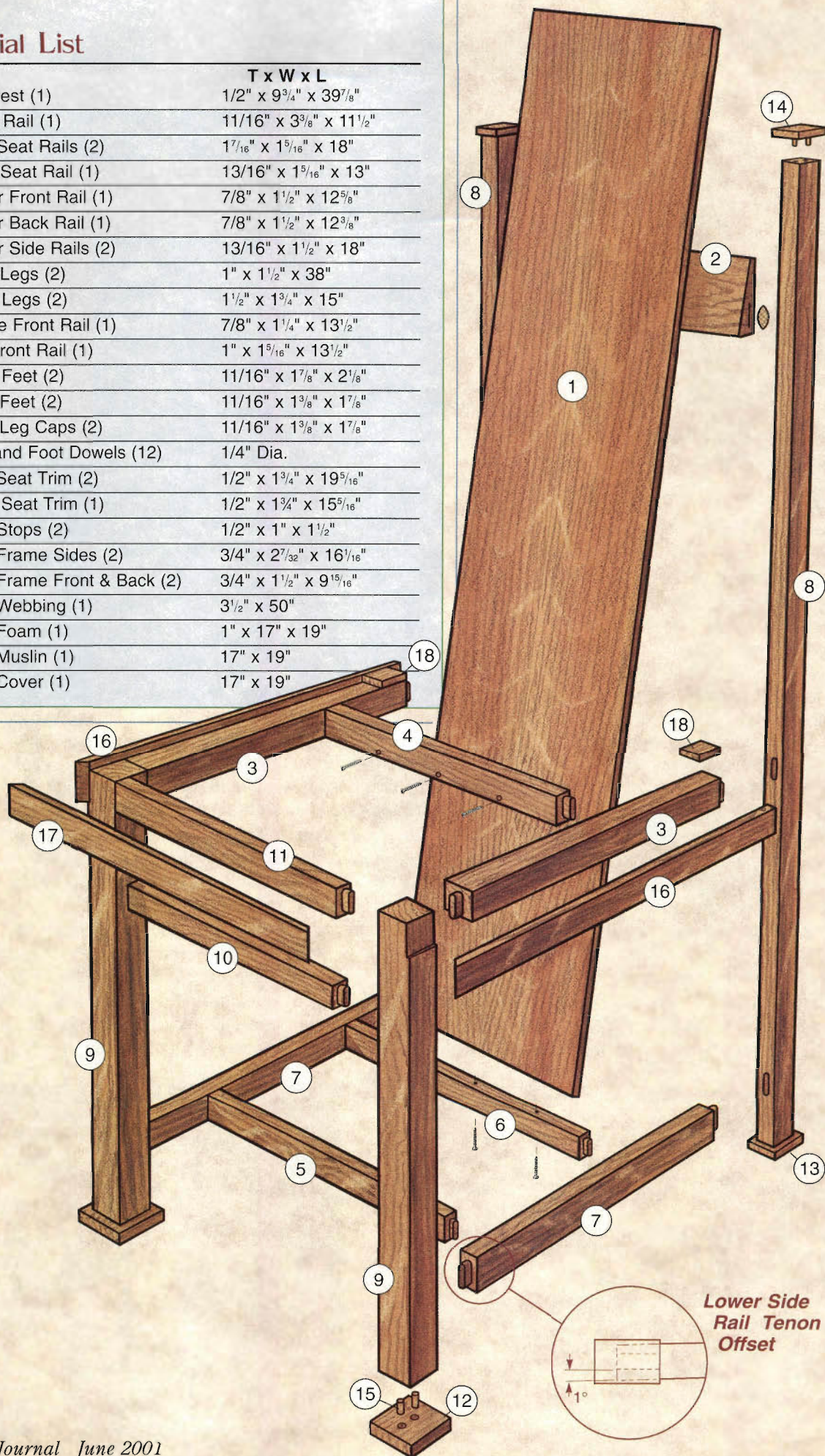
Don't forget: there is both a right and left configuration to the rabbets on the top of the front legs.



The slightly tapered rabbet on the top outside edge of each front leg is milled on the table saw. Clamp the leg vertically, and change the angle of the miter gauge to make left and right cuts.

Material List

	T x W x L
1 Backrest (1)	1/2" x 9 3/4" x 39 7/8"
2 Crest Rail (1)	11/16" x 3 3/8" x 11 1/2"
3 Side Seat Rails (2)	1 7/16" x 1 5/16" x 18"
4 Back Seat Rail (1)	13/16" x 1 5/16" x 13"
5 Lower Front Rail (1)	7/8" x 1 1/2" x 12 5/8"
6 Lower Back Rail (1)	7/8" x 1 1/2" x 12 3/8"
7 Lower Side Rails (2)	13/16" x 1 1/2" x 18"
8 Back Legs (2)	1" x 1 1/2" x 38"
9 Front Legs (2)	1 1/2" x 1 3/4" x 15"
10 Middle Front Rail (1)	7/8" x 1 1/4" x 13 1/2"
11 Top Front Rail (1)	1" x 1 5/16" x 13 1/2"
12 Front Feet (2)	11/16" x 1 7/8" x 2 1/8"
13 Back Feet (2)	11/16" x 1 3/8" x 1 7/8"
14 Back Leg Caps (2)	11/16" x 1 3/8" x 1 7/8"
15 Cap and Foot Dowels (12)	1/4" Dia.
16 Side Seat Trim (2)	1/2" x 1 3/4" x 19 5/16"
17 Front Seat Trim (1)	1/2" x 1 3/4" x 15 5/16"
18 Seat Stops (2)	1/2" x 1" x 1 1/2"
19 Seat Frame Sides (2)	3/4" x 2 7/32" x 16 1/16"
20 Seat Frame Front & Back (2)	3/4" x 1 1/2" x 9 15/16"
21 Seat Webbing (1)	3 1/2" x 50"
22 Seat Foam (1)	1" x 17" x 19"
23 Seat Muslin (1)	17" x 19"
24 Seat Cover (1)	17" x 19"





The front face of the crest rail must be angled on the table saw so that the backrest can lay flat against it. Later the crest rail will be attached to the back legs with biscuit joints.



Completing the Milling

There are a couple of final milling steps that need to take place before the chair goes together. The first operation is to cut the shallow tapered rabbet on the top side of the front legs. This is best accomplished with the use of a jig that holds the leg perfectly upright to the face of an appropriately angled miter gauge, as shown in the photo on the bottom of page 54. The leg should be run top down with the blade raised to 1 1/4". It is important that you separate your left and right legs, as the left leg will have to be cut with the miter gauge tilted one way and the right the opposite way.

The second operation is the tapering of the outside face of each seat side rail (pieces 3). This is best accomplished with a tapering jig. Make sure you mark your taper points from actual legs (don't rely on measurements alone), as a tiny change in the mortise and tenon will throw off the taper and the mitered seat trim won't sit properly.

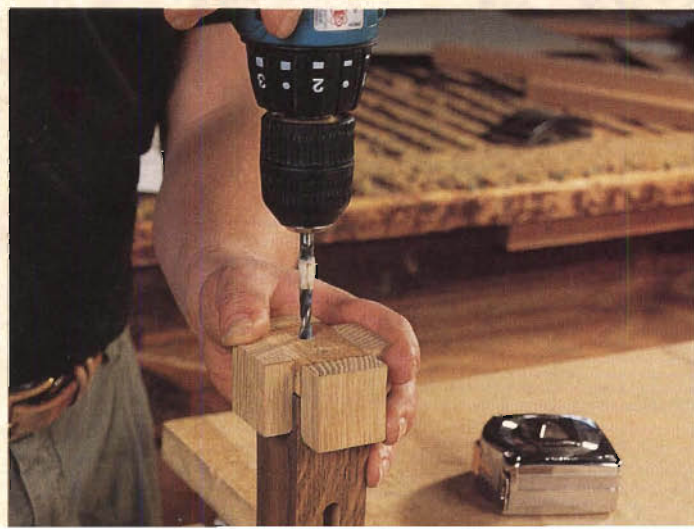
Sanding and Staining Before Assembly

It's now time for the most delightful aspect of woodworking — sanding! My first step here is always to raise the grain with a damp rag. This greatly facilitates the rest of the sanding process, especially getting rid of mill marks. While easing

edges, you must keep in mind the relationship of pieces to each other. Some pieces can have all edges eased, but others must just be barely touched, as they line up with something else. I usually sand with 120 grit paper and, if I feel it is necessary, I raise the grain again and then re-sand with 120 grit.

I am an advocate of staining all pieces separately before assembling. This is especially helpful with a dark stain and a large surface area. Staining separately prevents stain buildup in corners and the problem of stain drying too quickly. There are a few caveats to this method. The first is that you should avoid getting stain on gluing surfaces. This is especially important if you're using a mineral spirits based stain. The other is that you will almost certainly need to touch up some areas after assembly. On these chairs, this is the case with the seat molding. You will have to touch up the back ends of the side pieces and the front miter points, all of which will have to be eased after glue-up.

Quickly constructed drilling jigs will ensure that the 1/4" hardwood dowels used to attach the foot to the bottom of each chair leg and the caps on top of the back legs stay straight and true.



I mention this touch-up point because some stains are much easier and more forgiving than others. The water-based stain I used on these chairs is one of the best for ease of touch-up.

Assembling the Skeleton

The assembly process is very straightforward, with two exceptions. I use West System® epoxy for all my joints but one, which I will discuss later.

The first assembly step is to glue up the two horizontal subassemblies — that is, the side seat rails to the back seat rail, and then the lower front and back rails to the lower side rails. Then, assemble the back legs to the crest rail, and the front legs to both the middle and top front rails. Since a biscuit joint allows quite a bit of movement, it's important to measure the crest rail position before applying clamping pressure. After these subassemblies are dry, they can be assembled together in one major glue-up, checking that everything is square.

Adding the Backrest

The attachment of the backrest to the chair is a bit more complex than the skeleton assembly you've just completed. Begin the process by temporarily clamping the backrest

in place, and then drill pilot holes for the three bottom screws and the three seat level screws.

Drive the seat level screws home carefully, making sure their points aren't going to protrude.

The backrest to crest rail joint is, quite frankly, a problem. The cross grain nature of this joint makes it much more difficult than most. Some of the originals of this chair had a shallow angle screw that went from the bottom of the crest rail into the backrest. This proved to have very little strength and easily tore out. Two or three screws driven directly through the two pieces



Predrill before driving screws to secure the backrest to the lower back rail and back seat rail.

would probably be best, but aesthetically unacceptable. The solution that I came up with was to glue the back to the crest rail with Roo glue. This adhesive is made to glue Melamine™, but it works equally well on wood. It is a very tenacious glue, yet it maintains a small degree of flexibility. The back can be pried away from the crest rail to get glue in the joint, and then clamped. Mask the area to avoid squeeze-out.

Attaching the Final Trim

The final assembly step is applying the seat trim. You should get the three strips of trim (pieces 16 and 17) pre-stained for this. Start by rough cutting them about 1" too long, then begin with the side pieces. After cleanly cutting what will be the back end of the side pieces, they need to have a shallow bevel cut on their back inside face to lie flat against the legs. Do this by running them on end along the table saw fence, past a tilted blade.

When the beveling is finished, the piece can be held in place and marked for the front miter. This miter is a bit more than 45° so you'll have to cut it with your miter gauge. Before gluing, the back end should be sanded, eased and stained. The side trim can then be glued in place with epoxy and spring clamps.

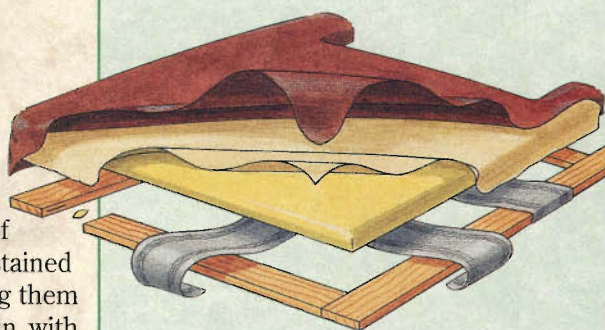
The front trim piece is easy to fit, as it has the same miter on each end. Ease up on your fit to make sure that both miters are tight and that the piece is hard against the front rail. Again, glue in place with epoxy. After the glue has dried, two points of the mitered corners need to be eased slightly with sandpaper and then touched up with stain. Then glue the seat stops (pieces 18) in place.

Most any finish will work as a top coat. I applied three coats of catalyzed lacquer, sanding carefully between them with 220 sandpaper or a gray Scotchbrite pad. While the finish dries, refer to the sidebar at right to make the padded seat.

This chair is one of the true icons of Prairie school furniture, and I sincerely hope this article will encourage you to tackle it.

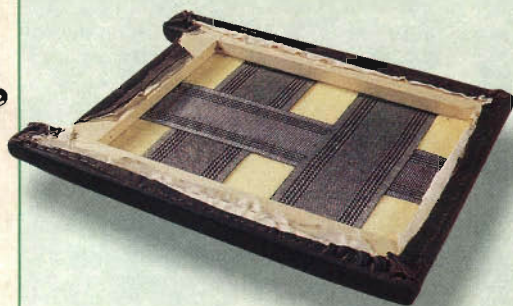
Renowned contributing editor Mike McGlynn is a nationally celebrated master furniture builder, specializing in meticulous Arts & Crafts era reproductions.

Padded Seating



After you cut the parts of the padded seat frame (pieces 19 and 20) to size and shape, assemble them with epoxied biscuit joints. When the assembly is dry, the outside and inside edges of the frame need to be eased with a roundover bit. You have a couple of options for upholstering this chair. The easiest is to cover a piece of 1/2" plywood with 1" foam, then muslin and, finally, your fabric or leather of choice. However, I prefer to make a webbed frame seat as I think it is much more comfortable and not that much more complex.

These seats are small enough that you can web them with two side-to-side strips and one back-to-front strip (pieces 21). Then cut a piece of high quality 1" foam (piece 22) to the exact shape of the seat and cover it with muslin (piece 23). The muslin helps shape the foam so that the top covering (piece 24) goes on smoothly. A pneumatic or electric stapler is invaluable at this point. The application of the top covering is much easier than the muslin, because you have to do much less stretching. Any little tufts on the bottom are trimmed off as neatly as possible. If you're feeling fancy, a bottom cloth can be applied, too.



Scroll Saw Secrets

By Tom Durden



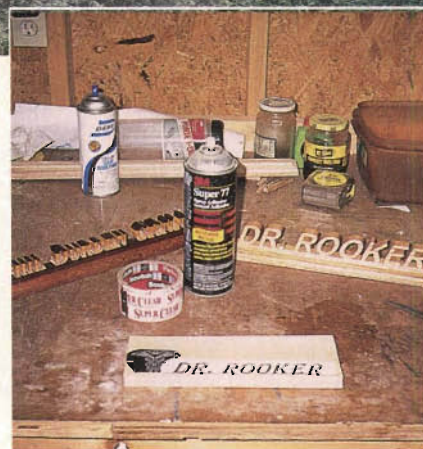
Our scroll sawyer extraordinaire uses a simple project to demonstrate tricks he's learned over many years.



very time someone asks me to help them get started on the scroll saw, I end up teaching them to create a version of one of the name plates shown in the photo above. It's a great project for learning because you end up with a useful item and pick up a lot of great scroll saw techniques along the way. And, as simple as they are in concept, I never fail to get a great response when I give a friend one of these mahogany monikers. And if you really want to enhance the look, do

a little extra planning and select contrasting wood species to accent and offset the name plates.

To get started, pick a style of print that you like. I simply go to my computer, choose a font, and print out the name. Now draw a straight line underneath the name to connect the bottom edge of all the letters. Cut the pattern along this reference line and trim away all the excess paper. Pick out the species of wood you prefer (3/4" thickness) and run the edge of your stock along your jointer to give it a true straight edge. Take a moment to



Teflon® base packing tape joins spray adhesive as typical tools of the trade in the author's shop.

sand the board smooth now to reduce sanding when you're all finished scrolling. Apply your pattern using 3M™'s Adhesive Spray, positioning it on the board so that the reference line is about 1/8" to 3/16" above the edge of the board. This will keep the name in

“A good rule of thumb is to tighten the blade until you can produce a “C” tone when plucking the blade with your fingernail.”

one piece when you're through cutting.

Slick Tape Trick

Usually, this is the point when you drill the holes required for your inside cutouts. Instead, here's a neat

step to help you reduce burning and stretch out the life of your blades. Before drilling, apply clear packaging tape over the name. This tape is Teflon® based and actually lubricates the blade as you cut, increasing blade life and reducing burns on the tight cutouts. With the tape pressed in place, go ahead and drill the interior access holes.

Begin the cutting process by removing the inside (enclosed) areas first. Form the outside shape of the name starting at the edge of the board, beginning the cut on your reference line. Do not exit the cut until you've finished the name,

exiting on the reference line as you do. You'll need the leftover piece later, so set it aside for now. Take the tape off of the letters and use paint thinner to remove any leftover pattern or adhesive. Place the name on a sheet of sandpaper (to reduce

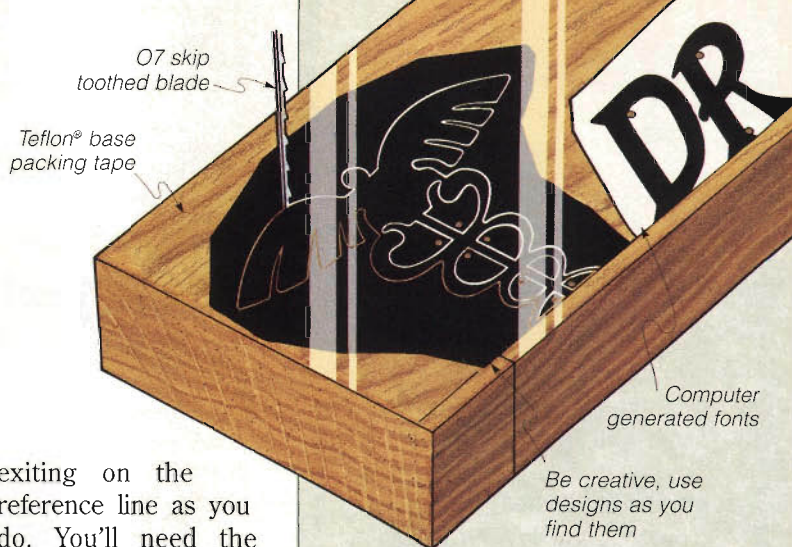
the chances of snapping a letter) and sand the surface smooth with a sanding block.

Attaching the Base

Generally, I form my bases from 3/4" thick strips of wood with a classic ogee routed into their edges. For the name to look balanced, the base should be 1 3/4" wide and about 1" longer than the name. If the base is slightly wide, run the edge on your joiner and route the edge again until the fit is perfect. Test fit the name onto the base, trimming the reference line strip to length. To protect the letters while gluing the name to the base, turn to the cut-away you set aside earlier and use it as a clamping caul.

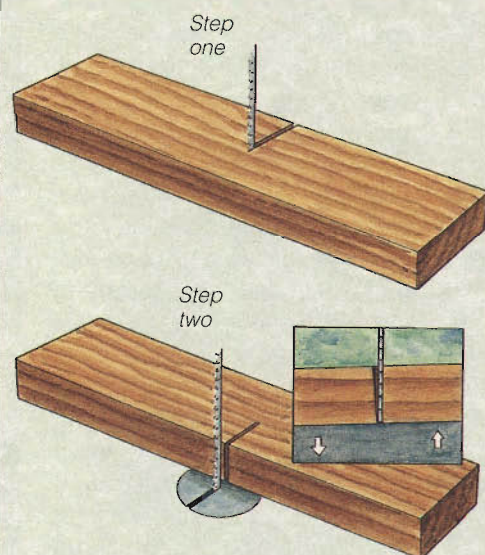
Once everything is glued and sanded, I apply Watco Danish Natural Oil in a shallow tub. This is a good way to get finish into all the nooks and crannies. Allow the oil to

Using a lighted magnifying glass, the author starts at one end of the pattern and keeps on cutting until he reaches the other end ... exiting on the reference line.



Adjust your table for square cuts

Try the simple alignment procedure below to ensure that you get square cuts every time.



To test your cut for square, select a piece of scrap about 3/4" in thickness. Place the wood flat on the tabletop and make a 1" cut straight into the wood, across the grain. Pull the wood straight back, away from the blade. Reposition the wood so your cut is facing the back of the blade. If the cut line and blade line up, then the blade will slide into the cut with no resistance: your table is square.



dry completely and spray finish with Deft® Semi-Gloss.

Beyond the Basics

Now that you've got the basics covered, here are a few ideas to keep in mind to make your time on the scroll saw more productive and enjoyable.

Laminating Species: If you decide to try a multicolored, laminated name plate you can really enhance the look by resawing a 1/8" piece of wood from the same species you selected for the bottom of the name cutout. Glue this 1/8" piece on top of your base. When the base is routed with the ogee bit, the top surface will be the same type and color of wood that is on the bottom of the name cutout. Adjust the cut so the shape of the ogee hides the glue joint.

Fine Details: When cutting fine details, always be aware of grain orientation. A good example is the doctor's cutout with the staff and serpent emblem (see photo on previous page). With the grain of the wood running side to side, the staff would be unstable and break off easily. To eliminate this potential disaster, I glue a section of wood (just the size of the staff design) into place with the grain running at 90° to orientation of the strip of wood selected. The pattern is then applied to the spliced-in wood and cut as before. Also, when making something like the teacher's cutout (the worm is made out of bubinga), be sure both woods are the same thickness to reduce sanding once the name is cut out.



Keep the waste piece from the name blank on hand. It will serve you well as a clamping caul when you're ready to attach the name to the base.



Apply gentle and even pressure when clamping the name to the base. Check the cutout's alignment and allow the glue to cure. The squeeze-out can be cleaned up later.



The author uses a plastic tub and a lot of polymerized oil when sealing his work with a first coat. The oil flows nicely into the scroll sawn details.

Planning ahead: I can't stress this enough ... always plan ahead. The wrong gluing sequence can mean disaster. For instance, with the "Dr. Rooker" piece, I glued the two serpents and staffs in place first and then lightly trimmed the ends of the name until it fit perfectly in between. Then I used my clamping

caul to glue that piece in place.

Square Cuts: I'm often asked specific questions about how to make very square cuts and which saw blade do I like the best. The short answer to square cuts is that you have to always be sure your table is at 90° to the saw blade, as discussed in the box on the previous page. But you also have to stick with good blades. I have tried many different blades and have found that the best ones for my work are the PM 09, 07 and 05 from BVDirect (for info, call 800-727-6553). These skip tooth blades are precision-milled, and include a reverse tooth configuration. They are very sharp and have a long life when used properly. For these name cutouts, I used a PM 09. If you find the PM 09 cuts too fast, move to a PM 07 and, if needed, add an extra one-half turn to the tension knob to keep your cuts crisp.

Dull blades: As you may expect, blades will eventually become dull. One way to detect a dull blade is when you have to start pushing harder on the wood to get the same cut. The blade will also tend to wander toward the softer grain, making it difficult to follow the line of

the pattern. In some cases, the blade will burn the wood in tight turns. If it seems your blades are wearing out too quickly, check the tension of the blade.

Tom Durden is a scroll saw expert from Memphis, Tennessee. His last article with Woodworker's Journal was back in October 1998.

Hardwood Showcase

Shopping for hardwoods has never been so easy!

We understand. We're wood people.

Whether it's the **smell** of a freshly cut board or the **feeling** of a fine finished piece, we understand there's nothing quite like working with wood. That's why we carry the highest quality kiln-dried **Northern and Appalachian hardwoods** and wood from **FSC certified** well-managed forests for all your woodworking projects. Call today or stop in and visit one of our **3 locations**.

NORTHLAND FOREST PRODUCTS

Kingston, NH • 603.642.3665
Troy, VA • 804.589.8213
Manassas, VA • 703.393.7500
www.northlandforest.com

(Circle No. 54)



NIAGARA LUMBER

**YOU'LL APPRECIATE
OUR DIFFERENCE**

Prepaid Freight • Surfaced • Bundled •
Shrink Wrapped • Guaranteed

- All lumber is Select and better grade, 4" and wider, averaging 6"-7" in width, lengths are 6'-8'. All stock meets or exceeds National Hardwood Lumber Assoc. grade rules.
- All domestic lumber is Northern Appalachian grown, exhibiting characteristics of fine grain, texture and uniform color.

Visa/Mastercard/Discover accepted

**NIAGARA LUMBER &
WOOD PRODUCTS, INC.**

47 Elm Street
East Aurora, NY 14052

Call Toll-Free 1-800-274-0397
www.niagaralumber.com

(Circle No. 53)

On-line store open www.macbeath.com

NEW!



Featuring lumber packs,
veneer, furniture squares, ash
bat blanks, plywood & more ...

930 Ashby Ave.

Berkeley, CA 94710

800-479-5008

Fax: 510-843-9378

(Circle No. 48)

HARDWOODS

Over 100 Quality Hardwoods
from Around the World
LUMBER • VENEER • TURNING STOCK

- Timbers from Protected Forests •
- Quantity Discounts •
- Prompt Shipping Arranged Worldwide •
- Custom Milling - Lumber Cut To Size •
- All Inquiries Welcome •

Call or Write for a Free Catalog
• Satisfaction Guaranteed •

Visit us on the World Wide Web
www.woodworkerssource.com
for Specials, Current Prices and
Complete Wood Descriptions
e-mail: wood@woodworkerssource.com

1-800-423-2450

WOODWORKERS Source
5402 S. 40th St. • Phoenix, AZ 85040

(Circle No. 109)

EXOTIC & DOMESTIC HARDWOODS

LUMBER • PLYWOOD • VENEERS • TURNING BLOCKS • BURLS

We specialize in small to medium size orders!

Over 80 species
of hardwood in stock.

CALL FOR PRICE LIST:

800-354-9002

FAX 516-378-0345

www.woodply.com



100 Bennington Ave., Dept. F/W
Freeport, NY 11520

(Circle No. 99)

Badger Hardwoods of Wisconsin, Ltd.

(800) 252 - 2373

17 Species of Hardwood Lumber and Plywood

Free Catalog - No Minimum Orders

www.badgerwood.com

(Circle No. 8)

HARDWOOD ADVANTAGE PACKS!

25bf 30"-60" L, 4"-10" W, S2S TO 13/16" clear 1 face
Cherry \$104, Red Oak \$84, Maple \$91, Poplar \$62

CALL 800-724-0132

We pay most UPS shipping. Catalog \$1 (free with order)

SHORT PACKS TOO - www.bristolvalley.com

BRISTOL VALLEY HARDWOODS

4054 Rt 64 at Rt 20A, Canandaigua, NY 14424

(Circle No. 14)

GILMER WOOD COMPANY

2211 N.W. St. Helens Road

Portland, Oregon 97210

Ph. (503) 274-1271 Fax (503) 274-9839

Domestics & Exotics-Alder to Ziricote

• HUGE SELECTION •

WOODS FOR:

Boxes, Carving,
Furniture, Models,
Turning, Flooring,
Paneling, Archery,
Bows, Millwork,
Pens and Pencils,
Guitars, Jewelry,
Boats, Canes,
Tools, and Veneer

WE STOCK:

Lumber 1"-6"
Squares to 12x12
Thin Woods
Logs and Burls
Instrument Parts
Knife Blanks
Carving Blocks
Sample Sets
Assortments

LUMBER BY THE BOARD OR BY THE UNIT

www.gilmerwood.com

(Circle No. 34)

QUARTERSAWN HARDWOODS

ASH, CHERRY, HARD MAPLE,
RED OAK, WHITE OAK, WALNUT,
SYCAMORE. ALSO MANY EXOTIC
SPECIES IN STOCK. AS ALWAYS
HIGHLY FIGURED CURLY MAPLE
IN 4/4 - 12/4 THICKNESSES.

WEST PENN
HARDWOODS, INC.
OLEAN, NEW YORK

TOLL-FREE
(888) 636-WOOD (9663)
www.westpennhardwoods.com

(Circle No. 93)

**Save Money—
saw your own lumber**



\$4995
LT15
Personal
Sawmill

Free \$21
Catalog

Make Money—saw for others.

- Cut logs up to 28" D. x 11' L.
- Extra bed sections permit longer lengths.
- Easily transportable.
- Video available.

Wood-Mizer
Sawmills & Woodworking Tools
www.woodmizer.com

8180 W. 10th St. Dept. MM50
Industrials, IN 46214

1-800-553-0219

(Circle No. 98 on PRODUCT INFORMATION form)

WOODWORKER'S JOURNAL eZine

Free Online Woodworking Magazine

Join the fastest growing electronic
woodworking community -
all the Web's woodworking news
delivered directly to your e-mail box -
every two weeks - **FREE!**

woodworkersjournal.com/ezine/subscribe.cfm

To place your ad in
HARDWOOD SHOWCASE
contact
DAVID BECKLER
800-878-7137

CNC under \$6,000



Automated
3D Control

**Personal Robotic Tools
for Productivity and Flexibility**

ShopBot
The Workshop RoBot

(919) 680-4800 • Durham, NC
Fax (919) 680-4900

888-680-4466

www.ShopBotTools.com

(Circle No. 76 on PRODUCT INFORMATION form)

Sliding Compound Miter Saws

By Charles Self

Sliding compound miter saws haven't been around all that long, but they sure have become popular in a hurry. That's because they're both portable and very accurate. Plus, they offer a wide cutoff like a radial arm saw, while being significantly easier to keep in alignment when used at angles other than 90°. There are significant differences between the various models on the market, so here is a roundup of some good ones.

The **Bosch 3915** is a decent saw with a slightly complicated guard mechanism and easy blade changes. It has dual horizontal tubes and a 13 amp universal motor which turns at 4,700 rpm. (Note: I used the same blade on all the saws: either a 10" or 12" freud LU91R).

After mounting the blade, I made several cuts in ash, Finnish birch multi-ply, yellow pine and poplar. The saw's cutting action — sliding the saw head toward the operator, and then lowering it and pushing it away — could not have been smoother. Bosch is known for having about the slickest sliding action going. The 3915 has a vertical D-handle, with a trigger that falls under the forefinger. Its mitering range extends from 52° left to 62° right, among the widest available. The fence can be extended to the left. Cuts made at the detents were right on the money.



Bosch 3915

Street price: \$480
13 amp, 4700 rpm
10" blade
Maximum cut width: 12 3/16"
Phone: 877-267-2499
www.boschtools.com

The 3915 will cut 12 3/16" across a 2 x 12, exceeding the marketing claims by a fraction of an inch. The cast-in miter scale clarity is good. The bevel cut

markings are very readable, with easily adjustable markers. Adjusting and setting the stops is easily done, both for bevels and miters. There are stops at 0, 15, 22.5, 30 and 45 degrees, right and left. The angle locking clamp is a fast action type with a sizeable friction pad. The manual is very good — at the top of the list for these tools.

The 3915 weighs in at a hefty 47 lbs. While it's not exactly a featherweight, it's still easy enough to stow under a bench. In real life, most of us will mount it on a stand of some kind. Street price on this unit is \$480.

Craftsman 9-212920



Craftsman 9-212920

Street price: \$580
15 amp, 4300 rpm
12" blade
Maximum cut width: 13"
Phone: 800-349-4358
www.sears.com

The 12" Craftsman 9-212920 is going to surprise a lot of Craftsman detractors: it has a ton of really nice features, including the most comfortable carrying handles available. The Craftsman offers a large motor (15 amps and 4300 rpm) and had the maximum cutting width in my test. The fence is 4 1/16" high and the central table is a 13 7/8" circle

with over 20" of support from side to side. Cuts were super smooth, indicating excellent alignment and a lack of vibration at the blade tips.

Positive miter stops are at 0, 15, 22.5, 31.6 and 45° right and left, but I found them a bit firm. It will only miter out to 48° right or left, one of the few features I'd like to see extended to match other saws in the price range. The miter scale is painted on steel, with an easily adjustable pointer on both this and the equally legible bevel scale.

One nice feature on the 9-212920 is the cord wrap. Dust collection with the bag is good, but it's even better with a vacuum. The handle is excellent, a soft grip padded horizontal D, with a trigger located under the thumb. The catalog price is \$580, but you may find this saw discounted in a Sears store.

DeWalt DW708



DeWalt DW708

Street price: \$600
13 amp, 4000 rpm
12" blade
Maximum cut width: 12"
Phone: 800-433-9258
www.dewalt.com

The DeWalt DW708 is a beauty, with few faults to pick on. It's perhaps a tad underpowered at 13 amps, but its 4,000 rpm deliver superb results in stock up to 12 $\frac{1}{2}$ " wide. The unit is belt driven, which protects the motor from overload.

The DeWalt has two sliding

tubes mounted vertically, instead of the more usual side-by-side arrangement. The painted stainless steel scale of the miter setup is very clear, and is viewed through the only Vernier scale lens in the group. The number of stops is standard, they are easily locked, and the best handle and release in the group makes it easy to move on to the next one. Cuts at miter stops and elsewhere were totally accurate. The saw has a horizontal D handle, but the switch is inside the loop of the D and is large enough that the first two fingers of the right hand fall naturally into place.

The table offers 22 $\frac{7}{8}$ " of support, with the best fence of the bunch. The clamp works very well. The biggest problem I had was with the stabilizer bar adjustment, a device that keeps the saw from tilting backwards. The adjustable screw heads were a strange type and one was cross-threaded, making changes impossible. The DW708 is expensive at \$599.99, but worth it.

Delta 36-240



Delta 36-240

Street price: \$430
15 amp, 5000 rpm
10" blade
Maximum cut width: 11 $\frac{1}{8}$ "
Phone: 800-321-9443
www.deltawoodworking.com

Delta's 36-240 sliding compound miter saw has a 15 amp motor with a speed of 5,000 rpm and a crosscut width of 11 $\frac{11}{16}$ ".

The round table turns easily to 57° right and 47° left. Scale markings are clear

with stops at 0, 15, 22.5, 31.6 and 45°. The miter scale markings are cast and painted, while the bevel scale is an easily visible metal strip with engraved and painted markings.

The Delta's fence is 1 $\frac{3}{4}$ " tall, and the clamp provides a good grip on irregularly shaped materials. Controls operate smoothly, with a horizontal D handle (two finger trigger) and bag dust collection.

The 36-240's base is heavy-duty plastic and the saw weighs a respectable 51 pounds. Street price runs about \$430.

Shop Test continues on page 60 ...

WATERLOX FINISHES

LEGENDARY WOOD FINISHES



Quality. Authentic. Natural Beauty.
Hand Made. Easy to Use.

Fine furniture makers, restorers and wood crafters have long relied on Waterlox Tung Oil products to enhance and protect the natural beauty of wood surfaces.

The Hawkins family has been manufacturing wood finishes for four generations, since 1916. Our hand-made blend of Tung Oil and special ingredients give you the hand-rubbed look off the end of a brush. Our products provide superior penetration, protection and beauty to residential, institutional and commercial wood surfaces, and are easy to use and maintain. Choose from satin, semi and high gloss.

The Waterlox legend continues with our fine line of oil and waterborne urethanes made from the very best ingredients. Choose from satin or gloss.

For more information, please visit us online at www.waterlox.com or call us at 1.800.321.0377.



Worldwide Finishing Solutions

(Circle No. 92 on PRODUCT INFORMATION form)

WOODLINE ARIZONA, Inc.
PO Box 1530 • Payson, AZ 85547
Great Router Bits and Shaper Cutters
Tough Micro-Grained Carbide • Euro Anti-Kickback
Super-Slick Non-Stick finish • SUPER LOW PRICES

- Shipping \$3.75 per order
- Same-day shipping!!
- All major credit cards

1-800-472-6950

CHECK OUT THESE BARGAINS!

10-pc Template Guide set (brass)
Kit contains one adapter, two lock nuts and seven different template guides in a plastic case.
only \$20 set
WL-WTS

Mini Rail & Stile for smaller projects
Panel Raiser and Ogee Rail & Stile (1/2" shank)
only \$59 set
WL-1408

Enlarged Rabbeting Bit
w/bearing set and allen wrench (1/2" shank)
WL-1225-1
only \$15 set

Brass Bushing and Solid Carbide Spiral
for Inlays (1/4" shank)
WL-INLAY
only \$20 set

www.woodbits.com
e-mail: cutters@netzone.com
FREE Catalog 600+ items

(Circle No. 103 on PRODUCT INFORMATION form)

This could be your
**greatest
woodworking
tool ever.**

Woodworking tips,
plans advice and links.

woodworking.com

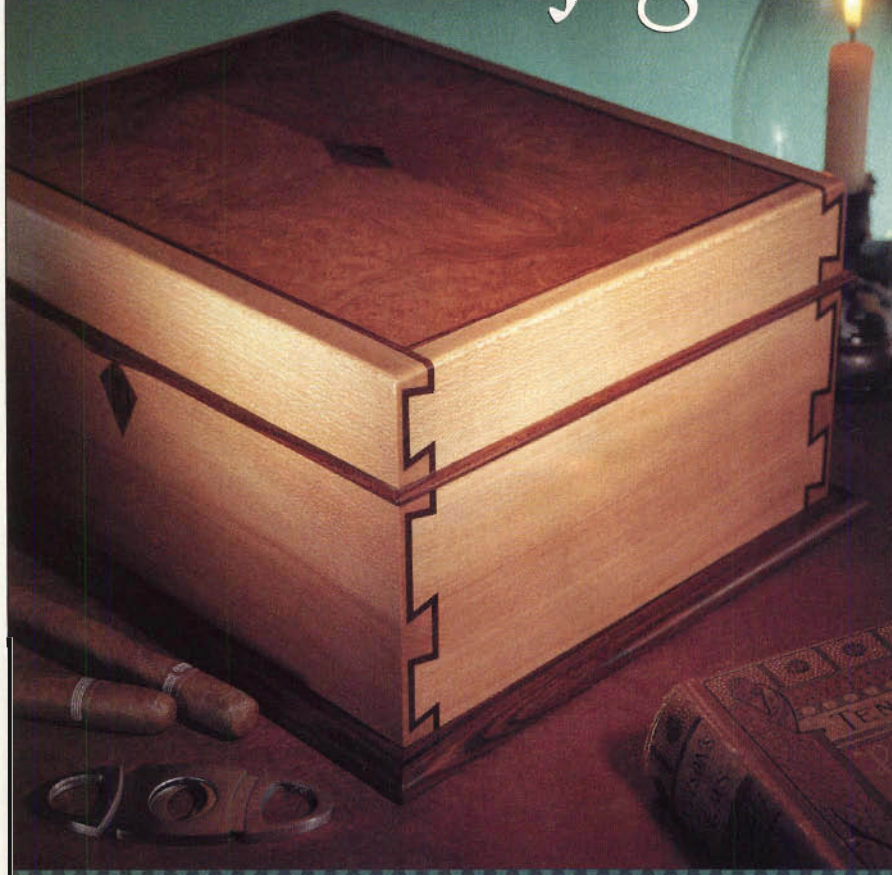
How's this for a tool? Get answers to your woodworking questions, discover links to rare plans or sources for all types of gadgets, and find great bargains in new and used tools.

Stays sharp! You'll always find the most up-to-date information at woodworking.com! It's the best place to share advice and swap ideas.

<http://www.woodworking.com>

V1530

Think Jig.



**The World's Best
Router Joinery Jigs**

Thinking Jig? Think Leigh.
Whether you're a hobbyist or a

professional, the Leigh Jig will help you create your best work. Versatility with precision make the Leigh Dovetail Jig better than the rest. Rout through and half-blind dovetails, with variable spacing of pins and tails, on one jig. Create decorative Isoloc joints, finger joints, and multiple

mortise & tenons easily with Leigh attachments. And our easy-to-follow user guide will help make it happen fast! Call toll free now to learn more.

LEIGH

Joining Tradition With Today

Call For Your Free Leigh Catalog Today! 1-800-663-8932

Leigh Industries Ltd., PO Box 357, Port Coquitlam, BC, Canada V3C 4K6 Tel. 604 464-2700 Fax 604 464-7404 Web www.leighjigs.com

TOOL REVIEW



**Makita
LS1011N**

Makita LS1011N

Street price: \$420

13 amp, 5200 rpm

10" blade

Maximum cut width: 12"

Phone: 800-462-5482

www.makitatools.com

**Makita's new
LS1011N** is
a serviceable
sliding compound
miter saw if
treated with care.

It has never been a world beater, but it works, and is relatively low in cost with a substantial crosscut length. It's a single compound, single tube saw, with a 10" blade, vertical D-handle, full hand trigger switch and a 2 1/2" high fence. Stops are at 0, 15, 22.5, 30, and 45° right and left. The miter cut to the right can be as great as 58°.

The LS1011N's 13 amp motor spins the blade at a no-load speed of 5,200 rpm. Miter and bevel gauge numbers are cast into the parts and painted the same color as the base, making them a bit hard to see in dim light. The bevel markings are placed so you have to hang over the saw to see them, but this is seldom a real problem. The turntable is 12 1/2" in diameter, with an overall table width of 19 5/8". The clamp is sufficient, but has no gripping material, letting it slip off rounded and irregularly shaped objects. Dust collection is on a par with the other machines.

The overall feel of the supplied saw was excellent, and fit and finish were fine. There are no locks on the stops, making it easy to change from one to another as needed. Accuracy was excellent, and the saw weighs just 34.8 pounds.

The street price of the LS1011N is \$420, the lowest tested, so it's a good starter tool.

Makita LS1212

Street price: \$700

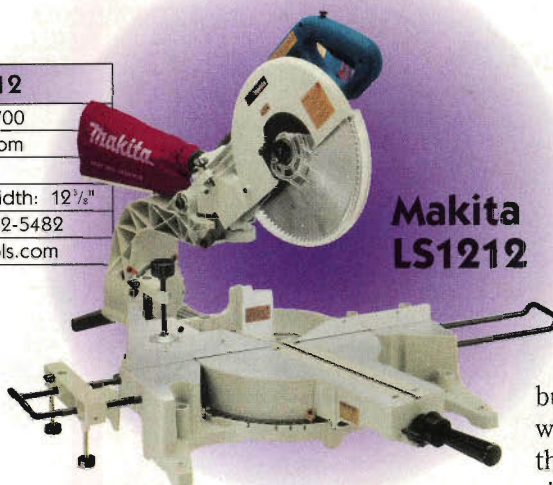
15 amp, 3200 rpm

12" blade

Maximum cut width: 12³/₈"

Phone: 800-462-5482

www.makitatools.com

**Makita LS1212**

The Makita LS1212 is still the big boy of the Makita line. This was one of the earliest dual sliding compound miter saws, and originally struck the market at a street price of about \$1,000. It sold well, and the price quickly dropped to around \$700. The LS1212 is a dual compound miter saw that has been refined over time. The 15 amp motor drives the 12" blade at 3200 rpm, and the vertical D-handle has a whole hand (well, four fingers, anyway) trigger. Its base table is 12⁷/₈" in diameter and 22⁷/₈" wide. Stops are at 0, 15, 30 and 45° right and left, with a maximum angle to the right of 60°.

Markings are clear and easy to read, being both cast and polished. The lock for the tubes is a bit awkward and the manual makes no mention of it that I could find. The miter lock, however, is superb; just push it down with your thumb to release it. Its depth stop is easy to use and effective, while dust collection is fair with the bag and excellent with some vacuum power supplied. The maximum cut width

for the LS1212 is 12³/₈". At 48¹/₂ lbs, it is weighty enough to be durable, but can be moved around with relative ease. Cuts at the stops, and in between since the 22.5 and 31.6°

stops aren't there, were made and tested, and were accurate.

This is a very nice, smooth-operating, accurate saw with a reputation for both durability and extended accuracy, with little need for adjustment. While it is the most expensive saw in this test, it's only real competition is the DeWalt DW708, which isn't a lot cheaper.

Shop Test continues on page 62 ...



The Woodcrafter's Premier Resource for Kits, Plans and Supplies

Clocks • Whirligigs • Toys Wood Parts • Clock Parts Plans • Kits & more!

Cherry Tree, Inc.
Box 369 • Belmont, OH 43718
1-800-848-4363

Toll Free FAX: 1-888-848-4388 WJ051

Check out our new and improved Website
www.cherrytree-online.com

(Circle No. 16 on PRODUCT INFORMATION form)

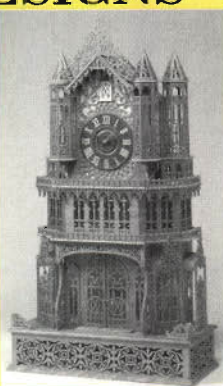
**WILDWOOD DESIGNS**

Over 1600 scrollsaw patterns
Easy to advanced designs
Scrollsaw blades as low as \$16.92
Your BEST source for clock parts, books, tools, plastic, plywood, hardwood

Order online or request your Free catalog at
www.scrollsawing.com

call/write
1-800-470-9090

Wildwood Designs
PO Box 676
Richland Center, WI 53581



(Circle No. 95 on PRODUCT INFORMATION form)



Ultra-Precision Woodworking Systems

**CabinetMaker's System®****SMART MITER™****AUTO-ZERO - FULL 100° SWING**

- Scale Reads Inside & Outside of any Miter Cut
- Ultra-Precision, Incremental Crosscut & Miter Sled
- Zero Blade Clearance At All Angles
- Full Measure, 48" Incremental Fence
- Jointech Leadscrew Technology

The Best System For:

- Cabinet Making
- Joint Making
- Routers
- Jointing

**Jointech Saw Train**

For Cabinet Saws - Bench Saws - And The Shopsmith® Machine

With our **NEW Saw Train** you can now bring incredible precision to any Cabinet, Bench or Contractors saw... With Jointech all you need is **ONE FENCE** to do it all - NOT THREE!



- 5-Pt Locking System
- Absolute Parallelism
- Large Rip Capacity
- Vacuum Fence
- Micro-Adjustable
- Incremental Accuracy

FOR A CATALOG CALL:

1-800-619-1288

Jointech, Inc. and Shopsmith, Inc. are not affiliated.
Shopsmith is a Registered Trademark of Shopsmith, Inc.
Jointech, CabinetMaker's System and Smartline are Registered Trademarks of Jointech, Inc.



The Ultimate Upgrade!
www.jointech.com

(Circle No. 43 on PRODUCT INFORMATION form)

ROUSSEAU CO. Quality Router Accessories

Safety Power Switch

For Quick & Safe Shut Off

FREE
CATALOG



800-635-3416 • www.rousseauco.com

(Circle No. 74 on PRODUCT INFORMATION form)

MAKE YOUR SHAPER AND MOULDER KNIVES
with the new **VIEL PROFILE COPYING GRINDING MACHINE**

VHS VIDEO \$9.95 (credited against machine purchase)

Grinds knives directly in the toolholder
Makes distortion-free profiles

\$699.00 Only

CALL 1-800-915-2601

VIEL TOOLS INC.
P.O. BOX 660, MADAWASKA, ME. 04756-0660

(Circle No. 90 on PRODUCT INFORMATION form)

TOOL REVIEW



Hitachi C10FS

Hitachi C10FS

Street price:	\$520
Motor:	12 amp, 3800 rpm
Blade:	10" blade
Maximum cut width:	12 1/4"
Phone:	800-706-7337
Website:	www.hitachi.com

Hitachi's C10FS sliding dual compound 10" miter saw was the pinnacle of

design not long ago. Today, it's still a mighty good saw, using a 12 amp motor and belt drive to spin its blade at 3,800 rpm. Two horizontal sliding tubes provide stability and durability.

The C10FS provides a wide range of stops for cutting miters. Start at 0° and you can work through 15, 22.5, 31.6, 35.3 and 45° right or left, with miters at 58° right and 45° left.

Locks are positive, adjustment is easy with excellent accuracy. The central part of the table — the adjustable part — is 9 3/4" diameter, while the table is 20 3/4" overall. The fence is 1 7/8" high with replaceable faces. Numbers are cast-in for both bevel and miter settings.

Maximum cut width for the bookshelf builders among you is 12 1/8", very good for a 10" saw. Dust collection is excellent with a vacuum, mediocre with a dust bag.

Overall, my impression of this tool is one of smoothness, slick operation and a total lack of pizzazz. If Hitachi changes the scales and polishes up a few points, the C10FS will be the dual compound saw of choice for more people than ever. As it is, it's worthwhile at about \$520.

Joint A-billi-T the new matched edge jointer



STARTING AT 60"

Woodworkers are abandoning their jointers for the ease, sureness and portability of the Joint A-billi-T.

Joint-A billi-T is just as its name implies, a tool for perfect glue joints. Use your router to cut these joints flawlessly in your shop: dados, rabbets, tapered cuts, squaring panels. Guaranteed square and tight joints starts your project right.

PLACE YOUR ORDER:
Call 800-997-1918 today!

Dear Mr. Gudeman,

Firstly, I wish to thank you for calling me to see how the JOINT A-billi-T was working. In today's market place, I seldom get that kind of interest.

Secondly, I rate your product up there with sliced bread and baseball. I am finally nearing completion on an order for forty - yes, forty - tables for an Inn. The smallest ones are 14" x 18" and they go up to 36" x 72". Without a doubt, I could never have completed all those tops and aprons without the JOINT A-billi-T. I believe the production time for jointing the edges was cut at least 50%, not to mention the improved quality of the finished products and my sanity, when you must tease a stubborn board into matching with its cousin.

Anyone who is a serious woodworker, or perhaps anyone who wants to plane an edge on a board, needs a JOINT A billi-T.

Congratulations on this wonderful improvement to the woodworking process. Like any process, each step must produce the desired results each time. With your product, this is possible.

Congratulations again for your contribution to woodworking.

Sincerely,
George Coates

Gudeman Enterprises
P.O. Box 126 Dept. WJ
Goodfield, IL 61742
309-965-2183
800-997-1918

FREE INFORMATION!
Call 800-997-1918
www.jointability.com

(Circle No. 42 on PRODUCT INFORMATION form)

Porter-Cable 3807



Porter-Cable 3807

Street price: \$470
15 amp, 5000 rpm
10" blade
Maximum cut width: 11 ¹¹ / ₁₆ "
Phone: 800-487-8665
www.portercable.com

Porter-Cable's 3807 is an enticing single compound miter saw with a 15 amp motor that spins at 5,000 rpm. Two sliding tubes are mounted horizontally under the round, 17³/₄" diameter table. The cast-in and painted markings provide excellent visibility, and the table turns in an arc that delivers a maximum 57° right and 47° left miter. Stops are at 0, 15, 22.5, 31.6 and 45° right and left. Bevel scale markings are on a metal strip, painted after engraving, and visibility from the front of the saw is excellent.

The handle on this saw is a horizontal D with a two-finger

lockable trigger (where the user supplies a small padlock). The fence is 1³/₄" tall. A knob-and-lock combination for swinging the table is easy to operate, while sliding movement is very smooth.

Depth-of-cut control on the 3807 is a bit ungainly, but works well enough. Dust control is similar to all the machines in the test. The maximum crosscut width is

11¹¹/₁₆", and the table has no provision for outriggers.

I liked its one-piece fence and work clamp, which provide secure positioning and lined up square to the blade. The 3807 comes standard with a premium Riptide™ 40T carbide-tipped blade, spindle lock, retractable blade guard, work clamp, dust bag, convenient carrying handle, wrenches and operating manual. Overall, this is a good tool at a workable price, with a middling weight of 51 pounds and a street price of \$470.

Shop Test continues on page 64 ...

STRANDED ON A SMALL ISLAND?

INTRODUCING BIGGER ISLAND LEGS

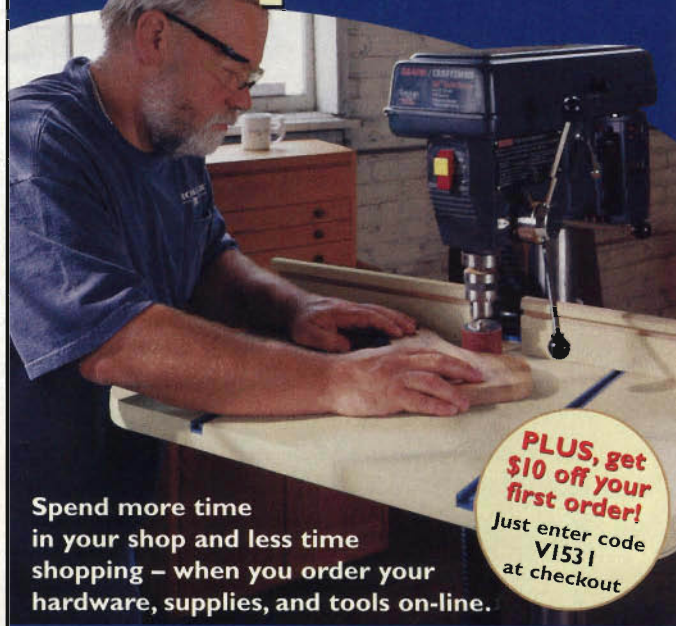
In addition to our line of 3¹/₂" x 3¹/₂" to 4" Kitchen Island legs we are proud to expand this line to include 3¹/₂" x 5" and 4" x 3¹/₂" legs.

OSBORNE
Wood Products, Inc.
www.osbornewood.com



8116 Highway 123 North • Toccoa, GA 30577
Call for a catalog: 1-800-746-3233 • 706-886-1065
Order line: 1-800-849-8876 • Español: 1-877-445-6034

Need more shop time?



Spend more time
in your shop and less time
shopping – when you order your
hardware, supplies, and tools on-line.

**PLUS, get
\$10 off your
first order!**
Just enter code
V1531
at checkout

Rockler.com

WOODWORKING SUPERSTORE

(Circle No. 61 on PRODUCT INFORMATION form)

TOOL REVIEW

Conclusions

It's hard to go wrong with any of the sliding compound miter saws that I tested for this article. Try to handle as many as you can before actually making a purchase. See how the grip feels to you, the placement of the trigger, the feel of the controls, the ease of changing angles for bevels and miters, the security of the locks and so on. Check them out, and buy the one that best fits your hand, your aesthetics and your budget.

With that said, in my opinion, the best overall value in this test (though not necessarily the best saw), has to be the DeWalt DW708. This unit offers dual compound mitering and amazing capacities at a reasonable price.

Today's new generation of sliding compound miter saws for the home shop range from a 12", 15 amp monster to Makita's new cordless 24 volt model with a 7 1/2" blade.



The Makita LS1212 may actually be a slightly superior saw, but it gains that superiority at a 15 percent higher price than the DeWalt. It offers a more powerful motor and some other slick features that help counter the Vernier scale viewing of the DeWalt, plus the long list of

outriggers, stops and other accessories that DeWalt makes available. Both of these saws are behemoths — 12" dual compound models that will cut more wood faster than most of us will ever need.

For those looking for a more fiscally conservative solution, consider the single compound miter saws. Here, the great values are the Bosch 3915, Delta 36-240, and Porter-Cable's 3807.

For greater capacity, the Craftsman 9-212920 offers a 15 amp motor and the widest (13") crosscut capacity of any sliding compound miter saw currently available and, as mentioned, it has a ton of nice features.



We only suck what we have to.

- Turns on the vacuum only to machines in use
- Shuts dust collector down (& regulates power)
- Saves energy (industrial users up to 70% !)
- Motorized 4" - 12" blast gates and controller
- Your shop is cleaner, and noise is reduced
- For home and commercial shops and industrial products

Call 1-888-ECOGATE for a free brochure. www.ecogate.com

ECOGATE®

(Circle No. 27 on PRODUCT INFORMATION form)

**FACTORY
DIRECT
PRICES**

**OWN A BEAUTIFUL
EMPEROR CLOCK**

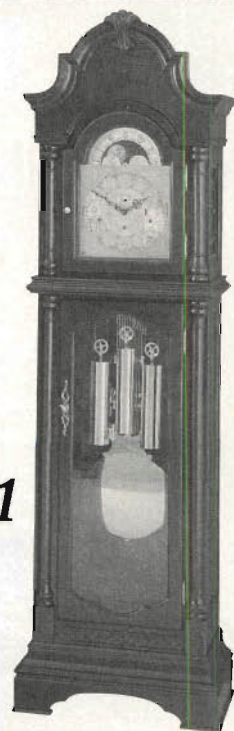
**Call and mention
Offer #7701
and receive our
free color catalog!**

- Grandfather Clocks
- Mantel & Wall Clocks
- Clock & Furniture Kits
- We Ship Anywhere

1-800-642-0011


Emperor Clock, LLC
PO Box 1089 Dept 7701
Fairhope, AL 36533

www.emperorclock.com



(Circle No. 28 on PRODUCT INFORMATION form)

Marketplace

To place your Marketplace ad, contact **David Beckler**, J.F. Van Gilder Co., P.O. Box 802405, Dallas Texas 75380.
Call: 800-878-7137 or 972-392-1892. Fax: 972-392-1893. E-mail: david@jvgco.com or advertising@woodworkersjournal.com.

WOODTURNERS

INCORPORATED

We ship
everyday
to the
U.S.A.

Huge Instock
Inventory

No Minimum
Quantities

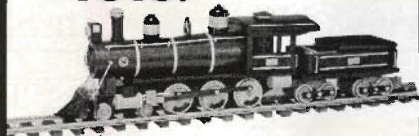
FREE
Catalogue

P.O. Box 198, Rockwood, Ontario, N0B 2K0, Canada
1-877-603-9663 (Toll Free) Fax 519-856-9948
Visit our website - www.woodturners.on.ca

(Circle No. 108)

MAKE WOOD TOYS!

PATTERNS
WHEELS
KITS
PARTS



Send \$1.00
For your
NEW Catalog

Toys and Joys
Box 628WJ
Lynden, WA 98264
www.toysandjoys.com

(Circle No. 87)

www.routerbits.com

Whiteside Router Bits
Systematic Saw Blades
Fisch Forstner Bits
HTC Mobile Bases



Router Bits on the Web

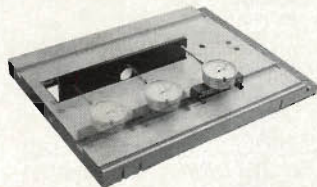
(Circle No. 75)

CAMBIAUM books

Authentic information for
woodworkers and furniture makers
FREE 64 PAGE BOOK CATALOG

PO Box 909 Dept T Bethel, CT 06801
PH 800.238.7724 FAX 203.778.2785
www.cambiumbooks.com

(Circle No. 15)



Tune your table saw to perfection!

MasterPlate \$49 Flat, ground 6 x 10 x 1/4-inch
thick aluminum plate. Fits 5/8 and 1.0 inch arbors.
SuperBar \$69 Fits 3/4 x 3/8 miter slots (also Sears).
Includes precision dial indicator - reads to 1/1000
inch. Order today! Toll-free 888.893.8300
mastergag.com

(Circle No. 50)

WIRELESS DRIVEWAY ALARM



A bell rings in your house
anytime someone walks or
drives into your place.

- Free Literature -

DAKOTA ALERT, INC.
BOX 130, ELK POINT, SD 57025
605-356-2772
www.dakotaalert.com

(Circle No. 23)

The Cutting Edge, Inc.

Fine Hand Tools For Turners
Carvers & All Woodworkers



7123 SouthWest Pwy Houston TX 77074
713/ 981-9228

(Circle No. 22)

USE A ROUTER ?

You NEED these templates:

SPECIALIZED TEMPLATES:
BUTTERFLY, HEART, TEDDY-BEAR, ETC
1/4, 1/2 & FULL RADIUS TEMPLATES FOR
CIRCLES AND OVALS

**CUSTOMIZED TEMPLATES THE WAY YOU
WANT THEM: LOW COST, NO MINIMUM**

www.templatesrus.com

For Both Edge AND Inlay Routing 1-847-718-0941 The templates you've been looking for

(Circle No. 71)

BRANDING IRONS

Stock designs as low as \$59.95

Signatures, logos
any type face or design.

Same day quotes on custom designs.

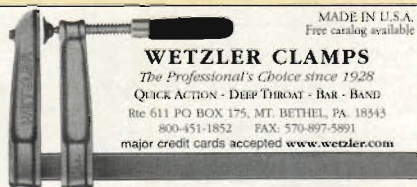
1-2 week delivery

Free Information

BRANDNEW

1-800-964-8251
www.brandnew.net

(Circle No. 94)



WETZLER CLAMPS

The Professional's Choice since 1928
QUICK ACTION - DEEP THROAT - BAR - BAND
Rte 611 PO BOX 175, MT. BETHEL, PA. 18343
800-451-1852 FAX: 570-897-5891
major credit cards accepted www.wetzler.com

(Circle No. 20)

U-BILD.COM

On-line catalog pictures hundreds of full-size woodworking plans at low prices. Free downloadable mini-plans. All skill levels. Free shipping. 64-page color catalog \$3.95 (refunded on 1st order) call (800) 828-2453.

(Circle No. 88)

The Future of Mini-Lathes IS NOW!!!

Call now or see our WEB SITE for more information on our world class

Precision Mini-Lathes,
including the "automagic" Model 363
Also see our new CNC lathe, Model 462!

LEASING PROGRAMS AVAILABLE

Pen Turning Supplies

Titanium Gold Pen Kits

Lowest Prices Available (Retail/Wholesale)

Pre-cut & Drilled Pen Blanks

in 38 Varieties of Rare and Exotic woods

Turner's Magic™

Friction Drying Sealer & Polishes

WoodWrite Ltd.

888-WOOD-WRITE (966-3974)

www.WoodWriteLtd.com

(Circle No. 100)

CUSTOM ROUTER BITS CUTTERS & KNIVES

2 week or less delivery

Toll-Free Fax Drawings: 1-888-RCT-TOOL (728-8665)

Mail drawings or wood samples:

Ridge Carbide Tool Co.

P.O. Box 497, 595 New York Ave.

Lyndhurst, NJ 07071

(800)-443-0992 E-mail: rcttools@bellatlantic.net

"Industry Leader in Custom Router Bits"

Send \$3 for complete 100 page

STOCK TOOL CATALOG

See our catalog at: www.ridgecarbide.com

(Circle No. 72)



81 Garden Bridge Plans
\$15.95

Specialty Furniture Designs

11099 W. Adams Rd. Dept. WJ-3

Riverdale, MI 48877

1-800-892-4026 MI add 6%

www.GALAXYMALL.COM/HOME/PLANS

Color Catalog \$3.00, FREE with order

(Circle No. 80)

Creative Woodcraft Plans

Over 450 shop-tested woodworking
project plans. Toll Free: 800.296.6256

www.SCROLLSAW.com

www.WOODENTOYPLANS.com

CUSTOM BRANDING IRONS
DEEP ENGRAVED, HEAVY BRONZE DIES
LONG LASTING, INDUSTRIAL DUTY HEATERS
FREE BROCHURE AND SAMPLE BRANDS
HIGH QUALITY ---- GOOD SERVICE

ENGRAVING ARTS 800-422-4509 FAX: 707-984-8045
P.O. BOX 787 www.brandingirons.net
LAYTONVILLE, CA 95454 E-MAIL: clem@brandingirons.net

(Circle No. 29)

Treen Mandrels
Treen (trē'an)
Made of "tree"; wooden

With TREEN MANDRELS you can easily turn beautiful bottles and boxes with perfectly fitted lids. System includes 1-1/4" Lid & Bottle Mandrels, Morse Taper & special fittings for lids.

For more information, see our website at www.bealltool.com or call or write:

Dept. WJ
The Beall Tool Company
541 Swans Rd., NE Newark, OH 43055
1(800)331-4718 Fax 1(740)345-5880

(Circle No. 9)

Quikwood® Epoxy Putty Stick

Repair Rebuild Restore Patch & Bond Wood
The Woodworker's Dream - When Fillers or Glue Won't Do!
Easy to use: tear off, hand-mix and apply
Shapes like modeling clay, hardens like wood
Sand, carve, drill, tint, paint, and finish

www.polymerics.com/quikwood.htm
888 4 fix wood ext. 2209
(Circle No. 67)

Building A Clock?
We've Got All the Works
At the Best Prices!



Call for Catalog #WW Today!
(800) 824-0900
www.blackforestimports.com
22865 Savi Ranch Pkwy., #D
Yorba Linda, CA 92887
Fax: (714) 282-9115
Email: info@blackforestimports.com

(Circle No. 13)

Vacuum Pressing

CALL 800 547-5484
Veneering • Laminating • Clamping

Includes:
Q.V.P. Electric Vacuum Pump
78 Minute Instructional Video
53" x 52" Vacuum Bag
Create Fine Furniture Complete System- \$295.00

www.qualityvak.com
Quality VAKuum Products, Inc.
43 Bradford Street Concord, MA 01742
Phone: (978) 369-2949 Fax: (978) 369-2928

(Circle No. 69)

FREE CATALOG

Bridgewood: equipped and rugged enough for the professional cabinet shop...value priced for the home shop. Discover the woodworker's edge! See the entire Bridgewood® line and much more in our new, FREE catalog. Write, phone or visit us online.

WILKE
MACHINERY COMPANY
MACHINERY POWER TOOLS
3230 N Susquehanna Trail, York, PA 17402-9716
1-800-235-2100
www.wilkemach.com

(Circle No. 96)

3M™ Power Visor
Includes Battery Charger
(\$5 Freight Charge)
\$159.00

Airware America
Box 975, Elbow Lake, MN 56531-0975
3M Authorized Distributor
www.airwareamerica.com

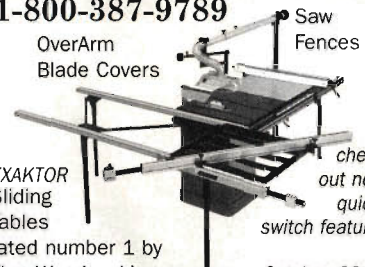
Free Info **1-800-328-1792** Ideal for wood dust

(Circle No. 2)

FACTORY DIRECT PRICES

1-800-387-9789

OverArm
Blade Covers



EXAKTOR Sliding Tables
rated number 1 by Fine Woodworking
October, 2000

check out new quick-switch feature!

www.exaktortools.com

(Circle No. 30)

Working on an idea?
We can help you submit to industry. Patent Services.



1-888-439-IDEA

(Circle No. 41)

www.librawood.com

"The best prices on the best tools"

"Forrest" Saw Blades
"Whiteside" Router Bits

Plus "Jacobs" Power Router Collets, Videos, Books & more
visit our web site at
www.librawood.com

(Circle No. 46)

See the Past Meet the Future!



Legacy Woodworking Machinery

www.legacywoodworking.com **1-800-279-4570**

(Circle No. 66)

HADDON LUMBERMAKER



This low cost 4 lb. attachment turns any chain saw into a portable saw mill and accurate cutting tool. Lets you make good custom cut lumber from logs - RIGHT WHERE THE TREE FALLS! Pays for itself with the lumber from the first tree you cut. Out-performs other products many times its size and price! Call or write for a free brochure. To order call us with your credit card number or send \$79.95 + \$9.00 S&H to:

 **1-888-705-1911**
HADDON TOOL, INC.
21967 W. Vernon Ridge Rd., Mundelino IL 60060
www.haddontools.com

(Circle No. 37)

ONE GOOD TURN
Division of MacBeath Hardwood

HOME OF THE WORLD'S MOST BEAUTIFUL WOODS

SPECIALIZING IN

- DOMESTIC AND EXOTIC TIMBERS
- TURNING BLOCKS AND SQUARES
- BEAUTIFUL LUMBERS FOR THAT SPECIAL PROJECT
- WOODWORKING AND WOODCARVING SUPPLIES
- BUY WITH CONFIDENCE, OVER 30 YEARS IN BUSINESS
- CALL FOR FREE CATALOG
- OVER 100 SPECIES IN STOCK

YOU SHOULD SEE WHAT WE SAW
CALL TOLL FREE 888-662-8024
E-MAIL guy@one-good-turn.com
WEBSITE, COMING SOON
ONE-GOOD-TURN.COM

(Circle No. 58)

Supergrit® SANDPAPER
WWW.SUPERGRIT.COM

HOOK & LOOP DISCS
2" \$16/100 3" \$20/100
4 1/2" or 5" 5 or 8 Holes \$13.00/50
6" 6, 8, or 16 Holes \$17.50/50

"LAPIKA" Micron 1/4 sheets
40-10 Micron (400-1500 grit)
REG. 39.95/50 SALE \$12.50/50

BELTS-A.O. RESIN		SHEETS—9"x11", A.O.	
1x30 \$.75	4x24 \$1.10	60D, 80D \$14/50	
1x42 \$.75	4x36 \$1.50	120C, 150C \$23/100	
3x21 \$.85	6x48 \$3.50	180A, 220A \$21/100	
3x24 \$.90	6x89 \$6.20		

ABRASIVE ROLLS

PREMIUM PSA DISCS **FREE 48 PAGE CATALOG**
RED HILL CORP. & incredible close-out sheets.
P.O. BOX 4234
GETTYSBURG, PA 17325 **800-822-4003**
www.masepoxies.com

(Circle No. 70)

If you can build a boat with it,
why not a chair?

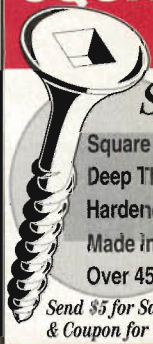
MAS EPOXIES

1-888-627-3769
masepoxies@aol.com
www.masepoxies.com

2615 River Road Cinnaminson, NJ 08077
(856) 303-9245 fax (856) 303-2889

(Circle No. 49)

SQUARE DRIVE SCREWS



Simply the Best

Square Drive Beats Driver Slippage
Deep Thread for Super Grip
Hardened Steel for Superior Strength
Made in the US or Canada!
Over 450 Styles Available!

Send \$5 for Samples, Catalog,
& Coupon for \$5 Off first \$25 Order

McFEELY'S PO Box 11169 • Dept WWJ
SQUARE DRIVE SCREWS Lynchburg • VA • 24506
Call Toll Free: 1-800-443-7937

(Circle No. 51)

The PECK TOOL
company since 1929



Fine German & Japanese
Hand Tools for the
Discerning Woodworker

Please
Call for a
Free Catalog! 1.303.440.5480

PO Box 4744
Boulder, CO 80306-4744
www.PeckTool.com

Thousands of Wood Parts,
Turnings & Hardware

www.cdwood.com

CUPBOARD
DISTRIBUTING

119 Miami St; PO Box 148W
Urbana, Oh 43078

(Circle No. 21)

1.300 ONLINE
PLANS
www.woodworkersjournal.com

EPOXY



Quick Cure

The definitive "five-minute epoxy" for fast, permanent repairs to wood, fiberglass, ceramics, glass, leather and plastics.

SYSTEM THREE

For the nearest dealer,
call 1-800-333-5514

Customer technical support
at www.epoxyhelp.com 3500 W Valley Hwy N, Suite 105 Auburn WA 98001

System Three Resins, Inc.

(Circle No. 83)

NEW! POCKET HOLE JOINERY MADE EASY



Heavy Duty
Aluminum
Extrusion
Hardened
Steel
Bushings

Use It To
Easily Make:

- Flush Joints
- Corner Joints
- Angle Joints
- Face Frames
- Table Leg Braces
- Cabinetry
- Furniture

Simp'l Products, Inc., P.O. Box 187, City Island, NY 10464

(Circle No. 77)

SWEDISH SILICON STEEL

BAND SAW BLADES

Electro
Heat
Induction
Hardened



FREE
CATALOG

Bi-Metal - M-2/M-42

Milled Sharp Teeth

Any Length
Any Size

REALLY TRIED THE
GSCHWIND-GRP.

Flex & Hard Back - PC: Series
AS: Series: Veneer Bands

TIMBER WOLF BANDS

HIGH PERFORMANCE PALLET & BAND MILL BLADES

SUFFOLK MACHINE **1-800-234-SAWS** 12 Waverly Avenue
Palchogue, NY 11772

19 YEARS OF GROWTH NATIONWIDE

(Circle No. 82)

Advertisers Index

To receive information about products and services featured in this issue by mail,
fill in the attached postcard, circling the appropriate number(s).
Your product information will arrive in four to six weeks.

No.	Source	Page
1	Accuride	16
2	Airware America	66
3	Airy Sales Corporation	17
4	Amana Tool Corporation	83
6	Apollo Sprayers	11
7	Arrow Fastener	29
8	Badger Hardwoods	57
9	Beall Tool Company	66
10	Bench Dog Tool, Inc	13
11	Berea Hardwoods Company	23
12	Better Built Corporation	69
13	Black Forest Imports	66
	Brand New	65
14	Bristol Valley Hardwoods	57
15	Cambium Books	65
16	Cherry Tree Toys	61
17	CMT USA, Inc.	21
18,19	Craftsman	24,25
20	Creative Woodcraft Plans	65
21	Cupboard Distribution	67
22	Cutting Edge	65
23	Dakota Alert, Inc.	65
24	Davis Instruments	17
25	Delta International Machinery	84
26	DMT, Inc.	20
27	Ecogate	64
28	Emperor Clock, LLC	64
29	Engraving Arts	66
30	Exactor Tools	66
31	Fein Power Tools	15
86	Festool	12
32	Fisch Tools	12
33	Furniture Medic	23
34	Gilmer Wood Company	57
35	Gougeon Brothers, Inc.	11
36	Grizzly Industrial, Inc.	2,3
37	Haddon Tool Company	66

No.	Source	Page
38	Home Depot	7
39	HTC Products	13
40	Hut Products for Wood	77
84	Inkra Tools	72
41	Invention Submission Corp	66
42	Joint-a-billi-T	62
43	Jointech	61
44	Klockit	27
45	Kreg Tool Company	72
	Leigh Industries, Ltd	60
46	LibraWood	66
47	Linden Publishing, Inc.	74
48	Macbeath Hardwood Co.	57
49	MAS Epoxy	66
50	Master Gage	65
51	McFeely's Fastener's	67
52	Mule Cabinetmaker Machines	71
53	Niagara Lumber	57
54	Northland Forest Products	57
55	Nyle Corporation	74
56	Olson Saw Company	80
57	Olympia Steel Buildings	79
58	One Good Turn, Inc.	66
59	Oneida Air Systems, Inc	80
60	Original Saw Company	71
61	Osborne Wood Products, Inc.	63
62	Pacific Lasercraft	79
63	PanelPro	29
	Peck Tool Company	67
65	Petri Paint Company	73
66	Phantom Engineering, Inc.	66
67	Polymeric Systems, Inc.	66
68	Porter-Cable	4
69	Quality VAKuum Products	66
5	Quick-Grip Clamps	9
110	Rainhandler	81
70	Red Hill Corporation	66

No.	Source	Page
72	Ridge Carbide Tool Company	65
73	Rockler Woodworking & Hardware	17,63
74	Rousseau Company	62
75	Router Bits on the Web	65
76	ShopBot Tools	57
77	Simp'l Products	67
78	Smithy & Company	77
79	Sommerfeld's Tools for Wood	20
80	Specialty Furniture	65
81	Steebar Corporation	15
82	Suffolk Machinery	67
83	System Three Resins, Inc.	67
71	TemplatesRUs (RI Services)	65
85	Tool Chest	65
87	Toys & Joys	65
88	U-bild Woodworking Plans	65
89	United Gilsonite Laboratories	13
90	Viel Tools, Inc.	62
91	Village Originals	19
92	Waterlox Coatings Corp.	59
93	West Penn Hardwoods	57
94	Wetzler Clamp Company	65
95	Wildwood Designs	61
96	Wilke Machinery Corp.	66
97	Williams & Hussey	19
98	Wood-Mizer	57
99	Wood-Ply Lumber Corp.	57
100	Wood-Write, Ltd.	65
101,102	Woodcraft Supply Co.	73,75
103	Woodline AZ, Inc.	59
104,105	Woodpeckers, Inc.	16,27
106	Woodpeckers, Inc.	69
107	Woodstock Internat'l Inc.	17
108	Woodturners, Inc.	65
109	Woodworker's Source	57
	Woodworking.com	60

For product info at the speed of the web, visit our web site to link to our advertisers' sites:
www.woodworkersjournal.com/adinfo

Six Benchtop Planers

By Sandor Nagyszalanczy



There comes a time for every woodworker when pre-surfaced boards aren't good enough. Welcome to the world of thickness planers. These benchtop models are affordable and very handy for occasional users in small- to medium-size shops.

A little more than 15 years ago, Ryobi introduced the AP-10, the first portable planer available in the U.S. The machine's combination of small size, portability and its ability to plane wood accurately and smoothly made it immensely popular, spawning a fleet of competitors.

The latest crop of benchtop planers have greater capacity, power and sophistication than those produced a decade ago. These machines are still as compact and affordable as ever. But better still, they have a slew of features, such as depth presets and depth-of-cut indicators, designed to make them easier to use. Five of the six planers in this group have a carriage lock to stabilize the cutterhead during planing, reducing chatter and sniping and producing a much smoother surface.

Besides testing their features and checking to see how easy (or difficult) it was to change the knives, I tested each planer's power and surfacing ability. As a gauge of motor strength, I ran an 11" wide birch plank through each model. To

evaluate surface smoothness, I planed short lengths of red oak flooring, taking a scant 1/32" cut on the final pass. For the four models with manual carriage locks, I ran separate pieces with the lock on and off, inspecting each test piece under a jeweler's loupe.

Before exploring the differences between the six planers, here's what they have in common: Each has a 2-knife cutterhead 12" to 13" wide; a 15 - 16 amp universal motor and drive assembly that rides up and down on four steel support columns; rubber-covered infeed and outfeed rollers; folding support tables; a stainless-steel covered bed; a depth scale and cursor. All the models can plane stock between 1/8" and 6" thick and take a maximum cut 3/32" to 1/8" deep in a single pass (less for boards over 6" wide).

Craftsman 21713

Street Price: \$389.99
Phone: 800-349-4358
Motor: 15 amps
Speed: 8,000 rpm
Feed rate: 26 fpm
Cuts per inch: 51
Knife length: 13"
Knife type: reversible
Weight: 75 lbs.



The 21713's crank has an adjustable pointer for small changes, and six different presets on its depth stop rod.



Sears' best portable planer, the 21713 has a bounty of features, including a depth-of-cut indicator, extra-long infeed and outfeed tables and a top-mounted elevation crank handle that installs on either side.

Delta 22-560

Street Price: \$299.99
Phone: 800-321-9443
Motor: 15 amps
Speed: 8,000 rpm
Feed rate: 26 fpm
Cuts per inch: 51
Knife length: 12½"
Knife type: reversible
Weight: 65 lbs.



The newer model of Delta's two portable planers, the 22-560 has an open top which provides better access for knife changes (left). This also reduces weight in the compact, sturdily built model.

of magnetic handles stored in a foam tray attached to the chip deflector. The magnetic handles allow hands-free removal and replacement of the knives. Pins align each knife in the cutterhead, so no separate alignment tool is needed. A self-engaging latch keeps the cutterhead steady during knife changes, a feature shared by all the planers except JET's.

Craftsman 21713

Sears' best portable planer, the 21713 is an attractive machine with adequate power and a bounty of useful features, including a depth-of-cut indicator, preset depth stops, extra-long infeed and outfeed tables and a top-mounted elevation crank handle that installs on either the left- or right-hand side.

Like the DeWalt, Makita and Ridgid, the Craftsman's elevation crank has a scale around it indexed in 1/64". It also has an adjustable pointer to make it easier to keep track of small changes in cutting depth without having to bend down and read the front-mounted depth scale and cursor.

A turn of the depth stop rod will set any of six presets for planing stock 1/8", 3/8", 1/2", 3/4", 1" or 1¼" thick. Adjusting the rod is easy and the presets are fairly accurate, although stock thickness changes slightly when the carriage lock is engaged. The carriage locking lever is easily accessible from the front of the machine. While it reduced snipe noticeably, I didn't see a significant improvement in surface quality when it was engaged.

To change the Craftsman's double-edged knives, there's a nice T-handled Allen wrench and a pair

Delta 22-560

One of two portable planer models offered by Delta, the 22-560 is newer and more full-featured. Compact and sturdily built, the top of the flashy silver, black and blue Delta is open, reducing weight while providing better access for knife changes. The 22-560 features a carriage locking lever which clamps the cutterhead assembly to a pair of centrally located metal struts, instead of to the four support columns, as the other carriage-locking planers do. With the lock on, the Delta proved to be one of the smoothest surfacers tested.

Connecting the planer's sides at the top, the Delta's foam-padded handle doubles as a stock transfer roller — a handy way to send a board back to the infeed side after every pass. The handle is comfortable, but I prefer twin handles, as it's awkward carrying the Delta.

The unit's top-mounted elevation crank raises and lowers the head easily and its depth scale is quite legible. But the transparent cursor is mounted so far away from the scale that unless you view it straight on, there's enough parallax error to indicate a wrong setting.

Shop Test continues on page 70 ...

New Inkra Videos

Dovetails:

- Through
- Double
- Drawer Front
- Half-Blind
- Sliding

Box Joints & Wooden Hinges

- Learn the secrets to making perfect box joints.
- See the tricks to making wooden hinges.

Reg: \$24.95 ea.

SALE: \$19.95 ea.

or \$35.00 for both (\$5.00 S&H)

Order your Videos today!

1-800-752-0725

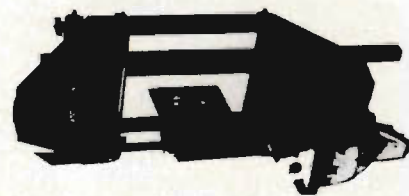
Woodpeckers Inc.
The Inkra Tool Source

www.woodpeck.com

(Circle No. 106 on PRODUCT INFORMATION form)



The only **AFFORDABLE-PORTABLE band sawmill** that can be easily carried to the jobsite and operated by one person.



The Ripsaw will cut up to 20" diameter logs into lumber from 1/8 to 9" thick and up to 14" wide and weighs only 45 lbs.

For a **FREE** brochure contact:

Better Built Corporation

789 Woburn Street, Dept. WJ

Wilmington MA 01887-4600

Phone: 978-657-5636-Fax: 978-658-0444

Video
\$10.00

MasterCard, Visa, Discover
Accepted

E-mail: info@ripsaw.com

Visit our website: <http://www.ripsaw.com>

(Circle No. 12 on PRODUCT INFORMATION form)

The Delta's double-edged knives are very easy and fast to reverse or replace using the magnetic knife handling tool that's included. Each knife slips over studs on the cutterhead, making alignment accurate and instant. A special wrench (with storage atop the unit) turns the knife hold-down bolts and rotates the cutterhead via a special door below the carriage lock handle. The 22-560 currently ships with an extra set of knives, a nice bonus.

DeWalt DW733

A patriarch among portable planers, the bright yellow DeWalt DW733 was the first portable planer on the market with a carriage lock and preset depth stops. Despite its aging design, the DW733 is a ruggedly built machine, with enough power to plane heavy or rough stock with ease. Employing a firm-clamping carriage lock and fast cutterhead that produces 64 cuts per inch, the quality of the DeWalt's surfacing is second only to the Ridgid.

The unit has a four-position depth preset turret similar to what you'd find on a plunge router. It offers three useful settings: 1/4", 1/2" and 3/4", but the presets are not 100 per cent accurate; only the 3/4" setting is adjustable. When dimensions are critical, you'll want to check final stock thickness.

Changing the DeWalt's single-edged standard knives is a less than ideal process involving rotating the cutterhead by hand and using a pair of magnetic setting gauges to align the knives (which must be inserted by hand). The gauges worked well, but care is required to ensure that the knives are correctly aligned. The DeWalt also had several quirks I found annoying: First, the lip between the end of the

Among the various features found on newer portables, I think a depth-of-cut indicator is the most useful.



infeed table and the planer bed consistently caught the end of the board fed into it (this happened on the Delta and Craftsman, too). Very irritating! Second, there's so little clearance between the front edge of the cutterhead assembly, that to achieve the 1/8 in. maximum depth of cut, I had to practically force the stock into the planer. The top-mounted elevation crank turns smoothly, but has a short throw, which makes rapid turning feel jerky. Finally, the bent steel carrying handles that slide

out of the top are hard on your hands, considering that, at 80 pounds, the DW733 is the second heaviest of the six planers.

JET JWP-12-4P

A "no frills" model, JET's JWP-12-4P has no fancy depth stops, no depth-of-cut indicator, and no "quick change" knives. Nonetheless, this model is a sturdy performer that's built like a pit bull, with a cast aluminum base and sheet-metal sides, top and chip deflector. In fact, the only plastic parts are the motor housing, handles and elevation crank knob. (I should mention that as I write this article, JET is preparing to release a new improved model to replace the JWP-12-4P.)

Despite its lack of fancy features, the JET is a noteworthy performer, with a powerful 16 amp motor that didn't balk at any planing tasks I threw at it. It's also enjoyable to

operate, with a smooth-spinning elevation crank and a simple, easy-to-read scale and cursor that show thickness.

A nice wide pair of sturdy and smooth-gliding stock transfer rollers reside atop the JET's case. Although its fold-down infeed and outfeed tables also have rollers, the tables are so short that auxiliary supports are needed when planing long boards. The chip deflector sticks out from the back of the unit so far that you can't fold up the outfeed table without cranking the head up and out of the way; a small inconvenience.

The JET has a very stout cylindrical cutterhead that holds

DeWalt DW733

Street Price: \$379.99

Phone: 800-433-9258

Motor: 15 amps

Speed: 10,000 rpm

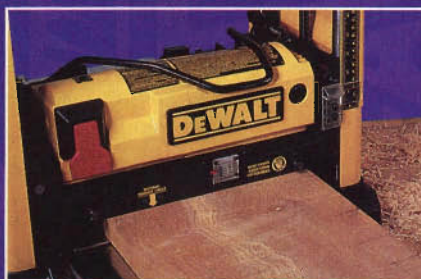
Feed rate: 26 fpm

Cuts per inch: 64

Knife length: 12 1/2"

Knife type: single-edge standard

Weight: 80 lbs.



A patriarch among planers, the DeWalt DW733 was the first on the market with a carriage lock and preset depth stops. It's still a rugged machine, but its scant clearance between the front edges of the cutterhead assembly required our tester to force the stock in to achieve the maximum 1/8" depth of cut.

a pair of double-edged, reversible knives with gibs and locking screws — the same arrangement used in many heavy-duty stationary planers. The knives are substantial: 1/8" thick and almost 3/4" wide. Unfortunately, they aren't very easy to remove; I had to make a tool out of coat hanger wire to pry each knife out of the cutterhead. A nice metal gauge is included to set the knife height accurately, but it requires dexterity and patience.

Makita 2012NB

If you're familiar with Makita's old 2012 planer, you won't recognize the 2012NB, which isn't just an updated version, but an entirely new model. Makita's done away with the old model's moving table and switched to a moving cutterhead/motor assembly as found on virtually every other portable. This arrangement allows auxiliary stock support tables or rollers to stay at the same height regardless of board thickness or depth of cut. The 2012NB is very compact and, at 59½ pounds, is the lightest of this group.

Its handles are part of the cast alloy top and make the planer very comfortable to carry. The elevation crank and depth scale are mounted on the left-hand side, which took

Shop Test continues on page 72 ...

JET JWP-12-4P

Street Price: \$289.99

Phone: 800-274-6848

Motor: 15 amps

Speed: 8000 rpm

Feed rate: 26 fpm

Cuts per inch: 51

Knife length: 12½"

Knife type: reversible
standard

Weight: 67 lbs.



The JET JWP-12-4P is a no-frills model, but a sturdy performer nonetheless. One caveat: the fold-down infeed and outfeed tables are short enough that you need auxiliary supports when planing long boards.

ACCUSQUARE GOLD

MILLENNIUM

"Try as I did to find something, there was nothing on the Accusquare fence that I could find fault with."

Graham McColloch,
Canadian Woodworking Magazine Oct./99

The BEST Tablesaw Rip Fence...
and we protect your investment with our

**GOLD STANDARD
LIFETIME WARRANTY**

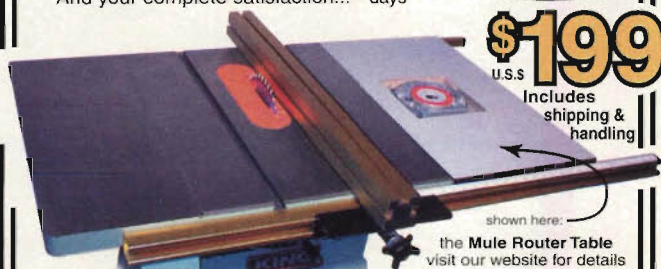
And your complete satisfaction...

for
90
days



\$199
U.S.

Includes
shipping &
handling



shown here:

the Mule Router Table
visit our website for details

www.mulecab.com

- Dual hairline cursor
- When you lock an Accusquare it STAYS parallel!
- Spring loaded locking device - Always stays SQUARE as you move it!
- Metal to metal locking ensures the fence will not move when locked in place. And it doesn't "creep" when you lock it down!
- The ONLY Rip fence made exclusively from Accurate Aluminium Extrusion and State of the Art C.N.C. Machined Steel parts!

Factory Direct Prices saves you Money
Commercial Quality fence ensures...

THE RIGHT CUT EVERY TIME

TOLL FREE ORDER LINE

1-877-684-7366

Fax: 905-898-5114

Email: accusquare@home.com



(Circle No. 52 on PRODUCT INFORMATION form)

ORIGINAL

**CONTRACTOR
DUTY
SERIES**

Model 3512-01, 3512-03

Specifications

- 3hp 1ph 220V
- 3hp 3ph 230/460V
- 12/13" Blade Capacity
- Automatic Brake
- 24" Crosscut Capacity
- Auto Return Device
- Complete Guarding
- Table, Frame Legs

The Original Saw Company

465 3rd Ave. SE • P.O. Box 331
Britt, Iowa 50423

www.originalsaw.com

800-733-4063 • (641) 843-3868

FAX (641) 843-3869

Call for a distributor nearest you

(Circle No. 60 on PRODUCT INFORMATION form)

Makita 2012NB

Street price: \$489.99
Phone: 800-462-5482
Motor: 15 amps
Speed: 8,500 rpm
Feed rate: 27.9 fpm
Cuts per inch: 51
Knife length: 12"
Knife type: reversible inserts
Weight: 59½ lbs.



Each of the inserts for Makita's reversible knives fits into a pressed-metal set plate.



Removing one of the side covers on Makita's new model lets you rotate the cutterhead without touching the knives.

a righty like me a while to get used to. To keep the carriage rigid and prevent sniping, the new Makita features a unique "Interna-Lok" automatic carriage clamping system. It consistently produced very smooth, clean surfaces, and I liked not having to remember to engage — and disengage — a manual lock. A depth-of-cut indicator and depth stop are also featured. The indicator lacks a scale, but is still helpful for quickly setting cutting depth. Unlike the preset depth stops on other models, Makita's lacks standard settings.



It's basically an adjustable rod that sets minimum planing depth, to help you plane a bunch of boards separately down to the same thickness without having to set the cutting depth each time.

disposable, a convenient and effective system even used on big industrial planers. Each insert fits into a pressed-metal set plate that secures and aligns the knife to the cutterhead. A pair of magnetic

The 2012NB seems slightly less powerful than the other planers: The motor slowed noticeably when I ran wide hardwood boards, although surface quality didn't suffer. However, the Makita is also up to 10 dB quieter than the other portables, so you can run it in a home shop and still maintain good relations with your neighbors. The Makita uses true insert knives only 5/16" wide that are reversible and

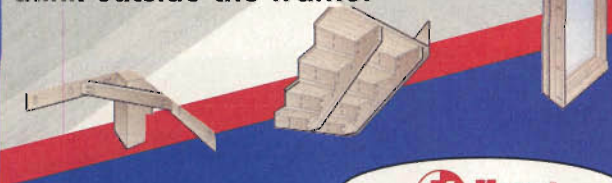
Introducing, the Kreg Jig® K2000 ProPack...



Featuring...

-Simple, three-step adjustability for nearly all material dimensions.

Pocket hole joinery, think outside the frame.

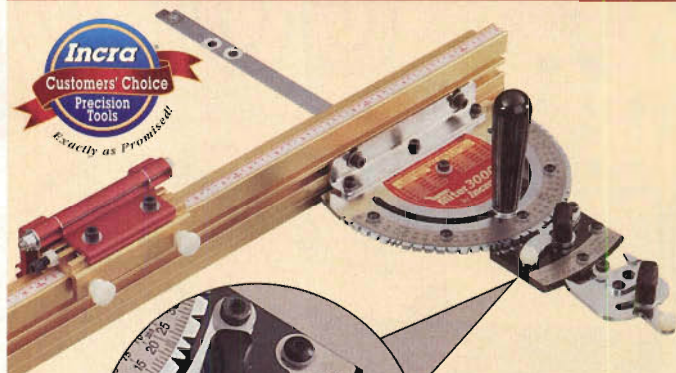


Kreg Tool Company
201 Campus Drive
Huxley, IA 50124

www.kregtool.com
1-800-447-8638

(Circle No. 45 on PRODUCT INFORMATION form)

INCRA DOES IT AGAIN!



OUR ACCURACY GUARANTEE:

Produce perfect gap-free hairline glue joints on the mitered corners of any multi-sided object without trial-and-error setups.



1-800-752-0725

Woodpeckers Inc.

The Incra Tool Source

www.woodpeck.com

Incra® Miter 3000™

- ◆ 364 Indexed Angle Stops in 1/2° Steps
- ◆ Continuous Adjustability
- ◆ Full +/- 90° Range
- ◆ GlideLOCK™ Adjustable Miter Bar
- ◆ 27" Incra-LOCK™ FLIP Stop Miter Fence
- ◆ INCRA FLIP Shop Stop Positioner

(Circle No. 84 on PRODUCT INFORMATION form)

handles make knife changes easy and very safe. Removing one of the 2012NB's plastic side covers provides access for rotating the cutterhead without fingers ever touching the knives.

Ridgid TP1300

While various portable planers have lots of great individual features, Ridgid's TP1300 seems to have them all, and then some. There's a depth of cut indicator with a scale that's very easy to read and a sliding preset depth stop with eight different settings, ranging from 1/8" to 1 3/4". Although not adjustable, the Ridgid's presets planed stock to within 1/128" of the stated thickness — remarkable for a home-shop machine. The side-mounted elevation crank turns easily with an organ-grinder-like motion that I prefer over the horizontal rotation of

Shop Test continues on page 74 ...



With the carriage locked, the TP1300 produces a smooth, flat surface with virtually no visible knife marks, as demonstrated by the boards above.



Ridgid's TP1300 has all the great features, including a side-mounted elevation crank that turns easily with an organ-grinder-like motion (above, right) and an onboard tool kit for knife changes (above, left). Instructions — in three languages — are inside the tool kit door.

Ridgid TP1300

Street Price: \$399
PPhone: 800-474-3443
Motor: 15 amps
Speed: 9500 rpm
Feed rate: 26 fpm
Cuts per inch: 61
Knife length: 13"
Knife type: reversible
Weight: 84 lbs.

Get a beautiful wood finish without a brush...just wipe it on for professional results and easy cleanup.

NEW

Wipe-On
GEL
PolyFinish

PETRI
Diamond Hard

Easy-To-Use MicroTropic Gel PolyFinish!

Simply apply to any wood surface for a tough Satin Finish! For Interior and Exterior Application. No tools or brushes needed... just a lint free cloth.

Apply With Ease And Confidence!

- No Brushes • No Spills
- No Drips • No Mess

Perfect For Use On

- Unfinished Wood
- Cabinets & Floors
- Doors & Frames
- Marine Trim & Woodwork

And much more!
Dealer Inquiries Welcome

PETRI Paint Co.
www.petripaintcompany.com
Call Toll Free: (888)393-4758



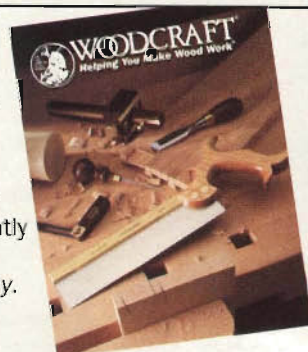
Makers Of The Purest Oil & Water Based Polyurethanes Since 1962

FREE TOOL CATALOG!

Your Best Work Starts With Us...

With over 8,000 of the finest woodworking tools in the world, Woodcraft can help you work more efficiently and skillfully than ever. Call for your Free copy today.

1-800-542-9115



WOODCRAFT
Helping You Make Wood Work

www.woodcraft.com

Visit one of our stores located nationwide! Call us for the store nearest you.



Proud sponsor of "The American Woodshop" hosted by Scott Phillips on PBS.

560 Airport Ind. Park,
Dept. 01WJ06Q,
PO Box 1686,
Parkersburg, WV
26102-1686

(Circle No. 65 on PRODUCT INFORMATION form)

(Circle No. 102 on PRODUCT INFORMATION form)

Making Working Wooden Locks



Amaze your fiends with these fascinating wooden locks. This is a must have book for all those woodworkers who love to make puzzles, games, mechanical movements, and moving, interactive objects of wood.

All projects include step-by-step instruction, color photos, and measured drawings. All locks can be made with basic woodworking tools.

Learn from the master. Tim Detweiler has made and sold over 3000 wooden locks.

8 1/2 x 11, 96pp. Color throughout. \$21.95 post paid.

ORDER TODAY



The Woodworker's Library®
LINDEN PUBLISHING

336 W. Bedford, #107 • Fresno, CA 93711

800-345-4447 • Fax 559-431-2327

e-mail: orders@lindenpub.com

See our complete catalog at www.lindenpub.com

(Circle No. 47 on PRODUCT INFORMATION form)

FREE Booklet!

Get the Facts on Drying Your Own Lumber



Find out more about affordable, quality lumber drying with this free booklet!

We're the world leader in dehumidification drying. Producing

quality dried lumber is easy with one of our energy-efficient kilns.

And this free booklet can help you get started.

Call today for your free copy:

800-777-NYLE

(207)989-4335 • FAX (207)989-1101

<http://www.nyle.com>

- Kilns from 300 Board Feet
- Precise & Easy to Operate
- Outstanding Drying Power

nyle
DRY KILN SYSTEMS

PO Box 1107 Bangor ME 04402-1107



MADE IN USA

EASY PAYMENTS
AVAILABLE



(Circle No. 55 on PRODUCT INFORMATION form)

cranks on other models. The carriage locking lever requires only light pressure to operate and the soft rubber coating found on every knob and handle make the Ridgid very finger-friendly.

Another innovative touch is the small storage compartment on the side that holds tools and wrenches used for changing the TP1300's double-edged, reversible knives. A special magnetic tool assists in removing and replacing the 3/4" wide knives (a spare set is included with the planer). Notches in the ends of each knife instantly align the knife correctly in the cutterhead. Instructions on how to change knives are printed on the inside of the tool kit door — in three languages, no less!

My only two reservations about the Ridgid concern its weight and power. At 84 pounds, it isn't a very portable portable and, although it's powered by a 15-amp universal motor, the unit slowed noticeably when planing wide lumber. Despite these limitations, the surfacing quality of the TP1300 is unrivaled. With the carriage locked, it produces a smooth, flat surface with virtually no visible knife marks.

Results and Recommendations

I'm pleased to say that all six planers are good performers, and there wasn't a one in this bunch that didn't do a reasonable job of surfacing both hardwood and softwood lumber. The JET and Delta have a slight edge power wise, and slowed little even when taking maximum depth passes on wide birch planks I ran during my tests.

Judging from the red oak test pieces, the flat-out smoothest surfaces were produced by the Ridgid followed very closely by the DeWalt and Delta (all with their carriages locked). However, all the portables produced surfaces smooth enough to require only light sanding in preparation for

a final finish. Also, all the models produced some snipe, though this was very slight: less than 1/64". Considering the results, I wouldn't pick one model over another simply because it has a carriage lock.

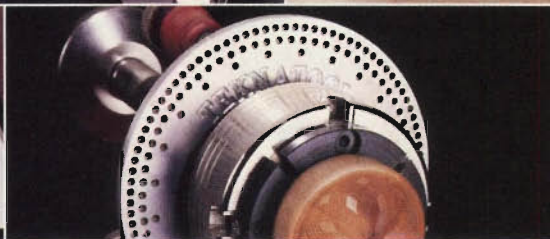
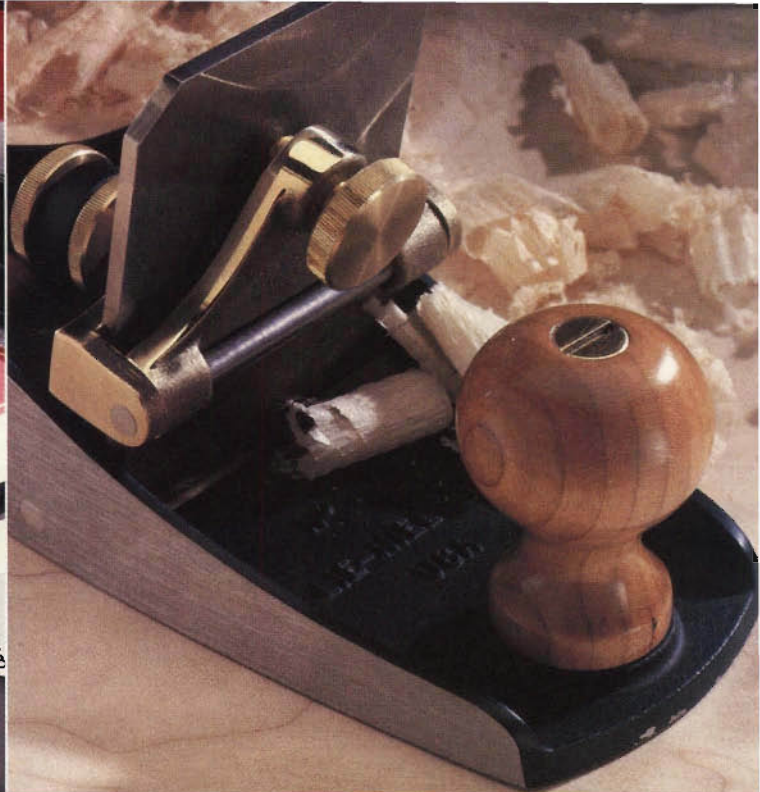
Among all the various features found on newer portables, I think a depth-of-cut indicator is the most useful. It makes thicknessing a LOT quicker and easier, since you can set cutting depth without checking stock thickness — or using trial and error. Preset depth stops are a useful time-saver if you often take lumber down to standard thickness, but I wouldn't consider it an essential feature.



Most manufacturers offer optional dust hoods to replace the unit's chip deflector for connection to a shop vacuum or dust collector. This is a must if you work indoors, as any planer can generate a mountain of shavings from a molehill of boards.

Which portable planer is best overall? That depends on how you work and plan to use the machine. I have three favorites for three different work situations: The Makita 2012NB's light weight, compact size and quiet operation make it a great choice for occasional use in a home garage workshop. The JET JWP-12-4P has solid construction that's likely to take daily punishment while delivering good performance at a job or construction site. And for surfacing fine hardwoods in a small cabinet shop, the feature-packed Ridgid TP1300 is my top pick.

Sandor Nagyszalanczy, a well-known woodworking author, reviewed belt sanders in our October 2000 issue.



We've Got What You Want, And We'll Show You How To Use It.

Finding someone who can supply you with the finest woodworking tools in the world and also show you how to use them, needn't be as difficult as it seems. For over 70 years, Woodcraft has been serving woodworkers' needs with the attention and knowledge that comes only from experience. At Woodcraft, we're committed to
Helping You Make Wood Work.



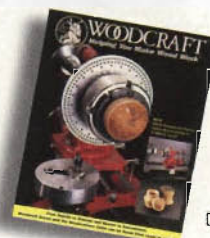
WOODCRAFT®
Helping You Make Wood Work®

• FREE Catalog • www.woodcraft.com • Stores Nationwide

For the store nearest you or for a free catalog call: 1-800-542-9115

Proud sponsor of "The American Woodshop" hosted by Scott Phillips on Public Television.

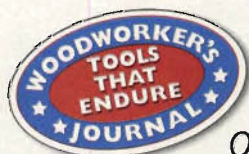
(Circle No. 101 on PRODUCT INFORMATION form)



Dept. 01WJ06CP

Porter-Cable's 362VS Belt Sander

By Rob Johnstone



In the Shop Test department of our October 2000 issue,

Sandor Nagyszalanczy reviewed the Porter-Cable and four other 4 x 24 belt sanders. Editor Rob Johnstone's further examination (and rather excessive treatment) of the Porter-Cable 362VS has led to its selection as one of Woodworker's Journal's "Tools that Endure."

I started woodworking back when a Timesaver was a guy who worked efficiently, drum sanders were hung off the quill of your drill press and you surfaced glued-up panels in your planer ... followed up by a whole bunch of belt sanding. As the youngest guy in the shop, I did most of that sanding. Often, I would show up at the shop and the foreman would just raise his eyebrow and tilt his head towards the pile of cabinet parts requiring a once-over: my day was planned out. Hundreds of hours of jockeying a belt sander teaches you a few things. First, size matters. We had many sanders available in our shop — one looked for all the world like a locomotive (and weighed about the same): not a popular choice. We also had a small 2" wide belt sander you held in one hand ... not a workhorse. But when one of the old hands in the shop was forced into actually sanding, they grabbed the 4 x 24 Porter-Cable.

A Job Quickly Done

Always curious, I asked what was so special about the P-C. The reply was something like, "Why should I spend more time doing this cotton-pickin' sanding than I have to?" (They didn't actually say cotton-pickin'.) As Porter-Cable was the inventor of

the hand-held belt sander (in 1926, it was dubbed the Take-About), their reputation was that of quality. Reputation, of course, meant nothing to a rough piece of maple. Performance was the only thing that mattered.

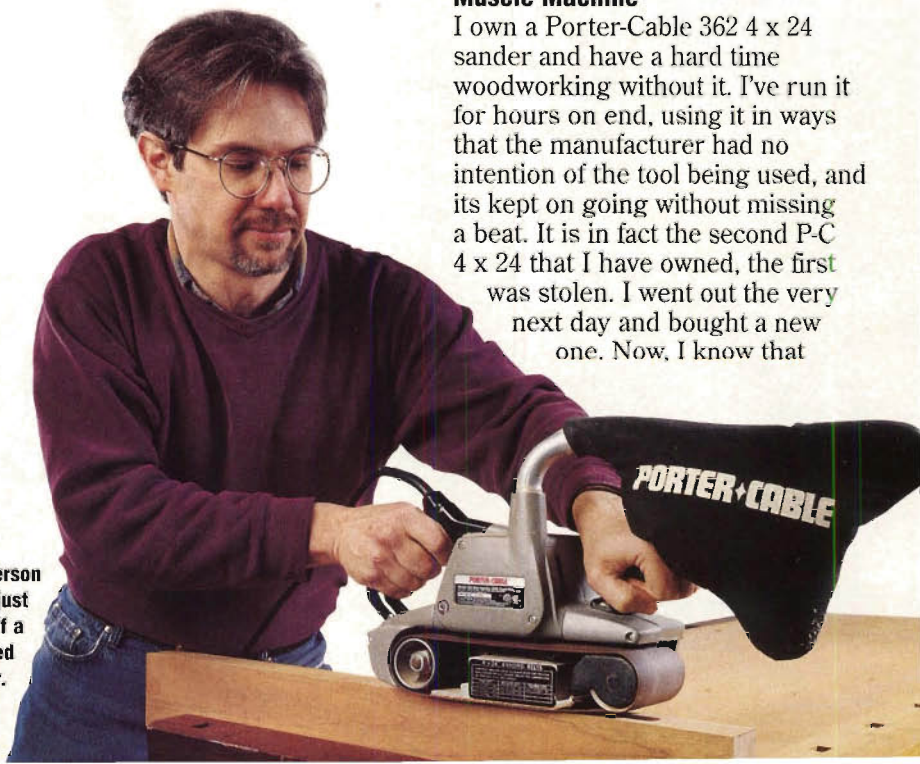
Muscle Machine

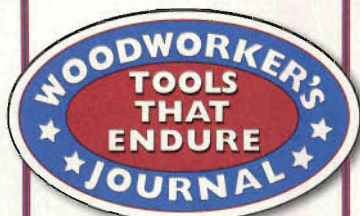
I own a Porter-Cable 362 4 x 24 sander and have a hard time woodworking without it. I've run it for hours on end, using it in ways that the manufacturer had no intention of the tool being used, and its kept on going without missing a beat. It is in fact the second P-C 4 x 24 that I have owned, the first was stolen. I went out the very next day and bought a new one. Now, I know that

Weighing in at 15.5 pounds, the Porter-Cable 362VS has earned its status as workhorse in hundreds of pro shops around the country.



I'm sure I'm not the only person to have plugged in a sander, just to watch it launch itself off a workbench like some demented cliff-diving drag racer.





Woodworker's Journal's

"Tools that Endure"

have undergone serious
hard use in the shop
and have stood
the test of time.
We congratulate winners
of this award for
producing tools of
superior quality and
lasting craftsmanship.

sanders are not glamorous tools, and that's just the point with the P-C. It's a tough nut and does what it's supposed to do without pause. It's also really well balanced, one of my key requirements for a belt sander. I don't want to have to worry about keeping the machine from rocking (and gouging the stock) while I sand. I want the balance of the tool to do that for me. I've used other belt sanders and found them top heavy, awkward and tippy.

The P-C is certainly substantial, but I don't consider it heavy. Perhaps that's because I want the weight of the sander to do my work for me. The Porter-Cable is heavy enough that it gets to work and starts sanding right away, its weight enabling it to "grab" the wood right out of the gate. I also appreciate its lever operated belt changing system, much better than the pop-and-drop systems others employ. When you change the belt, it's easy to adjust the tracking and once set, the belt stays put.

Used to Abuse

I don't want to baby a belt sander. I don't intend to do them harm, but sometimes it happens. I'm sure I'm not the only person who's plugged in a sander just to watch it launch itself off of my workbench like some

demented cliff-diving drag racer. The P-C, with its solid cast aluminum body sections and sturdy overall construction, is designed to absorb these body blows and keep on working. For example, last winter ice dams on my roof caused a serious leak to develop.

Unnoticed in the unholy mess caused by the leak was the fact that my sander had been soaked. Weeks later, I picked it up to do some sanding, plugged it in, squeezed the trigger and it just made a funny

noise — the belt did not move. Further examination revealed that the water had caused the platen on the bottom of the sander to rust right to the belt. I know I should have replaced the platen right there and then, but I was in a hurry and it would have been inconvenient to do so. So, I freed

the belt and just started sanding. It took the machine a while to get up to speed, and it smelled kinda bad, but I got the job done. Cotton-pickin' right.

Enduring Tool

So, for all the reasons mentioned above, for its heritage and its continuing toughness and accuracy, *Woodworker's Journal* is proud to present Porter-Cable's 362VS 4 x 24 belt sander with our *Tools that Endure* Award.



You'll never see Porter-Cable recommend this sort of use, but like thousands of other woodworkers, I use my 4 x 24 sander for all sorts of tasks: approved and exceptional.

Turn to quality.

FREE Catalog: 800-684-9371

- High-quality pen, project & duckcall kits
- Largest selection of pen blanks
- HUT wood finishes & polishes
- Sherline lathe systems & accessories
- Innovation, not imitation

Amazing New Finish!

Beautiful glass like finish in seconds. The final finish you have been waiting for! Try it on all of your wood turnings! Easy, no-mess, application. 6 oz. bottle.

#104 Crystal Coat
\$8.99

Order Today!
800-547-5461

Online Ordering!

HUT
Products, Inc.

www.hutproducts.com hutpfw@aol.com

(Circle No. 40 on PRODUCT INFORMATION form)

SUPERSHOP 10-IN-1 WOOD & METAL SHOP

**BECOME A BETTER
WOODWORKER -
GUARANTEED!**

SuperShop will increase
your woodworking skills or
WE'LL BUY IT BACK!

**SUPER
SHOP**

**You'll
make
projects
with
higher
QUALITY,
PRECISION, SPEED & SKILL!**



- New, different & BETTER than "lookalike" machines
- 10 most-used tools in 1 for ultimate versatility
- Premium quality makes it an outstanding value
- Rock-solid 450 lbs., 2.5times MORE than others
- State-of-the-art ELECTRONIC speed controls
- Extra POWER-IN-RESERVE DC motor
- 30-Day RISK FREE Buy-Back Offer & industry-leading Warranty

Get your **FREE SUPERSHOP REPORT** - "Better Woodworking GUARANTEED!"

CALL TOLL FREE 1-800-476-4849

SuperShop® Dept. WWJ, P.O. Box 1517, Ann Arbor, MI 48106-1517

☐ **YES!** Tell me how SuperShop will increase my craftsmanship. Rush facts, specs, and CURRENT SALE OFFER!

Name

Address

City State Zip

(Circle No. 78 on PRODUCT INFORMATION form)

Creating a Dust-Free Zone



Downdrafts in the Home Workshop

Delta's downdraft tables, models 50-880 and 50-855, are designed to be highly efficient — and affordable — dust collection systems. Three-side deflector curtains maximize dust collection without limiting the operator's ability to work with long stock, while reusable pleated filters (encased in a metal tray for durability) are easily removed for cleaning. Controls are in the front of the unit for easy operation, and built-in casters allow for mobility. Both models also feature a steel top with rubber grommets that cushion workpieces during sanding or routing operations.

Retail price of the 50-880, a 1/2 HP, 2' x 2' unit, is approximately \$499; while the 50-855, a 1 HP, 4' x 4' unit, retails for approximately \$689. *For more information, call 800-321-9443 or visit Delta's web site: www.deltawoodworking.com.*

Dust in the One-person Shop

Oneida's 1.5 HP Cyclonic Collector is designed as a dust collector for the one-person shop. The patented unit uses a separator for bulky wood waste before the fan and filters, while its internal pleated membrane filter captured 99.99 percent of test material at 20 microns and 99 percent of test material at one micron. The dust is deposited in a barrel; to get rid of it, you pick up the cover and pull out the drum. A 35 gallon barrel is standard. The end user can wire the dust collector for either 110

or 220 voltage. At 110, the 1.5 HP fan blower has 17.2 amps; at 220, it's 8.6. Weighing in at 92 pounds, the total unit fits in a two foot square floor space. Cost of the made in the U.S. Oneida 1.5 HP cyclone is approximately \$659.

For more info, call 800-732-4065 or visit www.oneida-air.com.



Pock'It Jig Clamping System



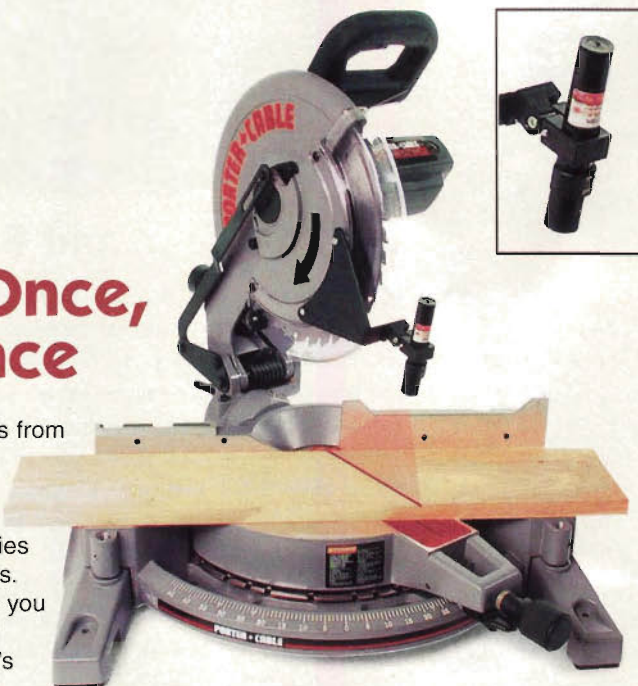
Simp'l Products, Inc. has taken the simple approach to joinery with the Pock'It Jig. Their new jig holds and clamps a workpiece while a woodworker drills and screws a joint together — replacing some biscuit joints or mortise and tenons. The Pock'It Jig is made of heavy-duty aluminum extrusion with hardened steel drill bushings and an integral

clamping system, as well as two mounting holes in the base. It will make flush joints, corner joints, angle joints, face frames and table leg braces and can be either bench mounted or handheld, allowing for portability. Suggested retail price for the Pock'It Jig is \$39.95. *For more information, call 718-885-3314 or visit woodjigs.com.*

Laser Once, Cut Once

More accurate cuts from compound miter saws is the promise of Carter Products' new Series A Cableless Lasers.

A bracket allows you to mount the laser directly to the saw's blade guard, positioning the clear red laser line to give you a precise reference on the stock throughout your cut. An internal AA battery fuels the self-contained Cableless Laser, which is equipped with an on/off switch. Carter says that, by using the



Cableless Laser, you'll save time, ease operation and get more accurate cuts.

Estimated price for the Cableless Laser is \$145.

For more info, call 888-622-7837 or visit www.carterproducts.com.

TURNING: THE LONG AND THE SHORT OF IT

The Fisch Turning Center allows you to turn a variety of stock lengths. While the 81 pound, heavy cast construction lathe starts out with 15" between centers, it also accepts an available, easy mount bed extension that allows up to 39" between centers. A 1 HP motor

with sealed bearings powers six speeds ranging from 500 to 3,700 rpm. The Turning Center also has a 10" swing, and a unique dust and chip deflector. Suggested retail price is \$299.99. For more info, call 724-663-9072 or visit www.fisch-woodworking.com.



**GIANT
FACTORY
DISCOUNT
SALE!** UP TO **60%** OFF
SUPER TOUGH STEEL BUILDINGS



CALL TOLL FREE **1-888-449-7756**

EXT# 573



**FINANCING
AVAILABLE**

- Easy Bolt-Up Rigid Frame Design
- Industry, Office, Shop, Farm, Mini Storage

30 x 40 x 10
40 x 60 x 12
50 x 75 x 14
60 x 100 x 16
80 x 100 x 16
100 x 200 x 16
OTHER SIZES
AVAILABLE



CALL TODAY FOR FREE LITERATURE PACKAGE
DON'T BE FOOLED your building must meet local building code requirements. Olympia buildings are engineered to meet all your state code requirements.
www.olympiabuildings.com

(Circle No. 57 on PRODUCT INFORMATION form)

NEW! Laser "guided" Routing

For exact reproductions of your paper patterns

Mounts into edge guides of most 1-2 hp routers

Trace the line of the pattern with the "safety laser" red dot and the router is guided to faithfully carve the work below. **15 FREE patterns** included to get you started. Suggested retail price under \$100.

(patented)

Distributor: The Big Horn Corp., Buffalo, WY 82834 Ph: 307.684.7292

Pacific LaserCraft

MADE IN U.S.A.

(Circle No. 62 on PRODUCT INFORMATION form)

WHAT'S IN STORE



FatMax Chisels

Stanley has broadened the offerings of its FatMax™ line of hand tools into one of the most extensive product families in its history. "We have taken the rugged appeal of the original FatMax Tape Rule and applied that same bold attitude to a variety of other tools," said Miguel Nistal, director of product management. Among these tools are FatMax Chisels, with large, impact-resistant handles designed for improved grip and better comfort. The chisel blade is 45 percent longer than others, providing better control. It's also 100 percent through hardened, to allow better sharpening along the entire blade length, and possesses a steel striking cap. Available in widths ranging from 1/4" to 2", the FatMax Chisels have a suggested retail starting price of \$9.99. Call Stanley at 800-782-6539 or visit www.stanleyworks.com.



Drill, Drive ... and Brake

Hitachi's new FDS12DVA 3/8" driver drill kit is made for drilling, for driving — and for stopping. An electric brake allows the driver unit to stop rotation immediately when the trigger switch is released. When you're ready to start again, a two-speed transmission operated by a one-touch speed shift knob allows you to use the complete range of 0 - 350/1,050 rpm. Electronic feedback power control ensures higher torque even at low rpm. Maximum torque is 191 inches per pound. A 22-position slip clutch offers precision driving. The driver drill also has variable speed with reverse capabilities, and a built-in cooling fan. It comes with a three-jaw, 3/8" keyless chuck. Retail price of the FDS12DVA ranges from \$128 to \$151. For more information, call 800-546-1666 or visit www.hitachi.com.

Dust free woodworking



• Design Services • Economical & Easy to Install Ductwork
Complete OEM dust collection systems 1.5hp & larger
www.oneida-air.com
1-800-732-4065

(Circle No. 59 on PRODUCT INFORMATION form)

New! All Pro™ Professional Series Band Saw Blades



Heavy duty, commercial grade band saw blades.

For use by professional woodworkers and craftsmen in industrial, woodworking, and furniture manufacturing applications.

The most efficient, long lasting blades with induction hardened teeth for cutting wood, plastic, and non-ferrous metal.

Visit Your Olson Dealer and Ask for the New All Pro Blades.

OLSON®
THE OLSON SAW CO.

16 Stony Hill Road, Bethel, CT 06801
Manufacturers of Fine Quality Saw Blades Since 1918

(Circle No. 56 on PRODUCT INFORMATION form)

Get Rid of Your Gutters!

RAINHANDLER®

Self-Cleans.

Unique louver design allows leaves and debris to blow or wash away.

Protects Property.

The Rainhandler self-cleaning system eliminates clogged, overflowing gutters and downspouts. No ground erosion. No more destructive ice dams from frozen gutters.

Protects You.

The Rainhandler self-cleaning system protects you from the need to climb ladders and roofs to clean clogged gutters.

Prevents Erosion.

Rainoff is converted to a 2 to 3 foot wide band of soft rain-sized droplets sprinkling the landscaping.

Maintains Itself.

The all-aluminum, never-rusting, maintenance-free Rainhandler louvers make messy, deteriorating gutters and downspouts history.

Beautifies.

The Rainhandler system is practically invisible. No gutters, downspouts, leaders or splash blocks to detract from the natural beauty of your home.

Installs Easily.

Each 5-foot section comes with 3 brackets & 6 screws. Do your entire home in 3 or 4 hours.

Guarantees.

Rainhandler comes with a 25-year manufacturer's warranty. Performance satisfaction is guaranteed for one full year.

Phone or Write for **FREE** Information

RAINHANDLER

Dept. WJ0501

2710 North Avenue/Bridgeport, CT 06604

1-800-942-3004/Fax 1-800-606-2028

Name

Address

City State

Zip Phone ()

www.rainhandler.com/wj

Get Your Motors Running

By Joanna Werch Takes

This issue's mystery tool comes from **Todd Nebel** of North Wales, Pennsylvania, who received it from his late grandfather. Grandfather was from Sweden and, Todd tells us, "was quite a woodworker in his day." While the handle grip on his tool certainly reminds me of a pistol, I don't think its intended use is quite that violent. Todd says the tool's four inch ruler passes through the rectangular hole in the handle, and also holds a thin, adjustable piece of metal with a razor sharp edge.

His speculation: "Could this be a woodworker's hand tool once popular in Europe?" I'm betting our readers won't be shooting from the hip when they identify it.

You certainly came through in identifying the cast iron tool Gene Mott of Lake Park, Florida submitted for our February 2001 issue. We described it as resembling a hand-crank eggbeater, but then we heard from readers like **Harold Richter** of New Munster, Wisconsin, an auto mechanic for 47 years, and one of several from this profession who wrote in.



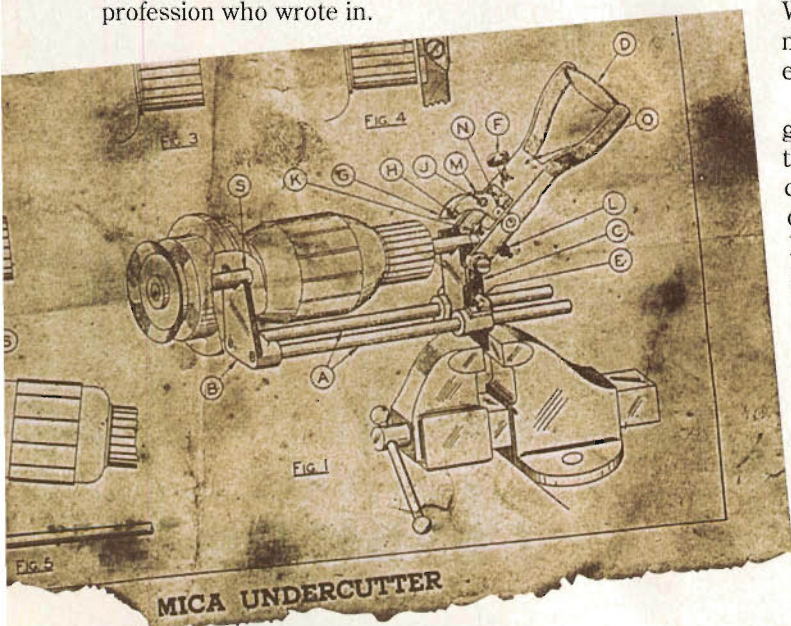
Sit back and take stock. Now, tell us: what do you think this tool is? Shoot us an answer.

"We used to turn generator and starter arms in a metal lathe to true them up, then use this tool to cut the installation between the copper bars," Harold said.

Ezekiel F. Arena of Vineland, New Jersey, explained that, on an electric motor with brushes, "in between each segment on the commutator there is an insulator that is made out of mica. After machining the commutator on the lathe, the mica is at the same level as the copper segments." Not undercutting these insulator bars, said **Roland B Handel, Sr.** of Wautoma, Wisconsin, "would keep the brush from making full contact with the copper bars to transfer the electricity."

Al Sindlinger of Visalia, California, knew just how to go about this process: "The armature shaft was held in the vee with the screw on the left," he explained. "The cutter was set with the screw in the center." **Robert Noll** of Lakewood, Pennsylvania, continued, "The spring-loaded arm that holds the blade controls the depth of cut. Back and forth movement of the lever makes the blade cut the insulation."

In Roanoke, Alabama, **Bobby Durham** recognized the tool due to his family's involvement in the auto parts business since 1936. Since the introduction of the alternator in place of automobile generators in the 1960s, however, said **Philip Mass** of Baraboo, Wisconsin, "This tool has been retired — as I am, after 67 years of auto maintenance and machinery repair."



Paul F. Trahan of Danielson, Connecticut, says armature undercutters like this have .015, .020 and .025 inch blades — for different thicknesses of mica.

WINNER! For taking the time to respond to *Stumpers*, **Nick Jonkman** of Petrolia, Ontario wins a collection of



American Tool's Quick Grip clamps. We toss all the *Stumpers* responses into a hat to select a winner. If you have a question or answer, send it to *Stumpers* Dept., *Woodworker's Journal*, P.O. Box 261, Medina, Minnesota 55340. Or send us e-mail: jtakes@woodworkersjournal.com

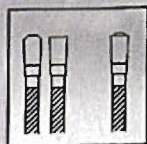
Guaranteed & Cleaner Cuts Longer Blade Life!

Amana Tool's sophisticated technology insures that every blade we ship is FLAT (+/- .002)! Flat blades run out less, so they generate less heat, cut cleaner and last longer. And, our large European-style teeth mean you'll get more re-sharpenings from every blade!

Now, for a limited time only, get famous Amana-quality blades at incredibly low prices!

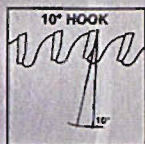
Amana Tool

INDUSTRIAL QUALITY
CUT-OFF & CROSSCUT BLADE
D-10 GRADE CARBIDE TIPS
10" x 60 TEETH



5/8" BORE

MAX RPM 7600



FOR SAFETY, USE MACHINE GUARDS
& WEAR EYE PROTECTION

EXCELLENT
CROSSCUT WOOD
PLYWOOD

GOOD

NOT RECOMMENDED
NON-FERROUS METALS
PLASTICS
MELAMINE & LAMINATES

5/8" Bore
10" x 60 Teeth
Sale Price
\$45⁹⁵

CROSSCUT BLADES

#610600(ATB)

Reg. Price \$93.45

#610601(TCG)

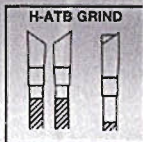
Reg. Price \$102.45

MELAMINE BLADE
#MB10800
(heavy-duty .102 plate)
Reg. Price \$145.70

5/8" Bore
10" x 80 Teeth
MELAMINE
Sale Price
\$79⁹⁵

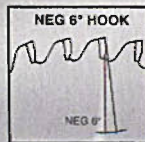
Amana Tool

INDUSTRIAL QUALITY
MELAMINE BLADE
D-10 GRADE CARBIDE TIPS
10" x 80 TEETH



5/8" BORE

MAX RPM 7600



Tool No. MB10800(C)

FOR SAFETY, USE MACHINE GUARDS
& WEAR EYE PROTECTION

EXCELLENT
MELAMINE
PLYWOOD

GOOD

NOT RECOMMENDED
NON-FERROUS METALS
PLASTICS
ALL OTHER MATERIAL



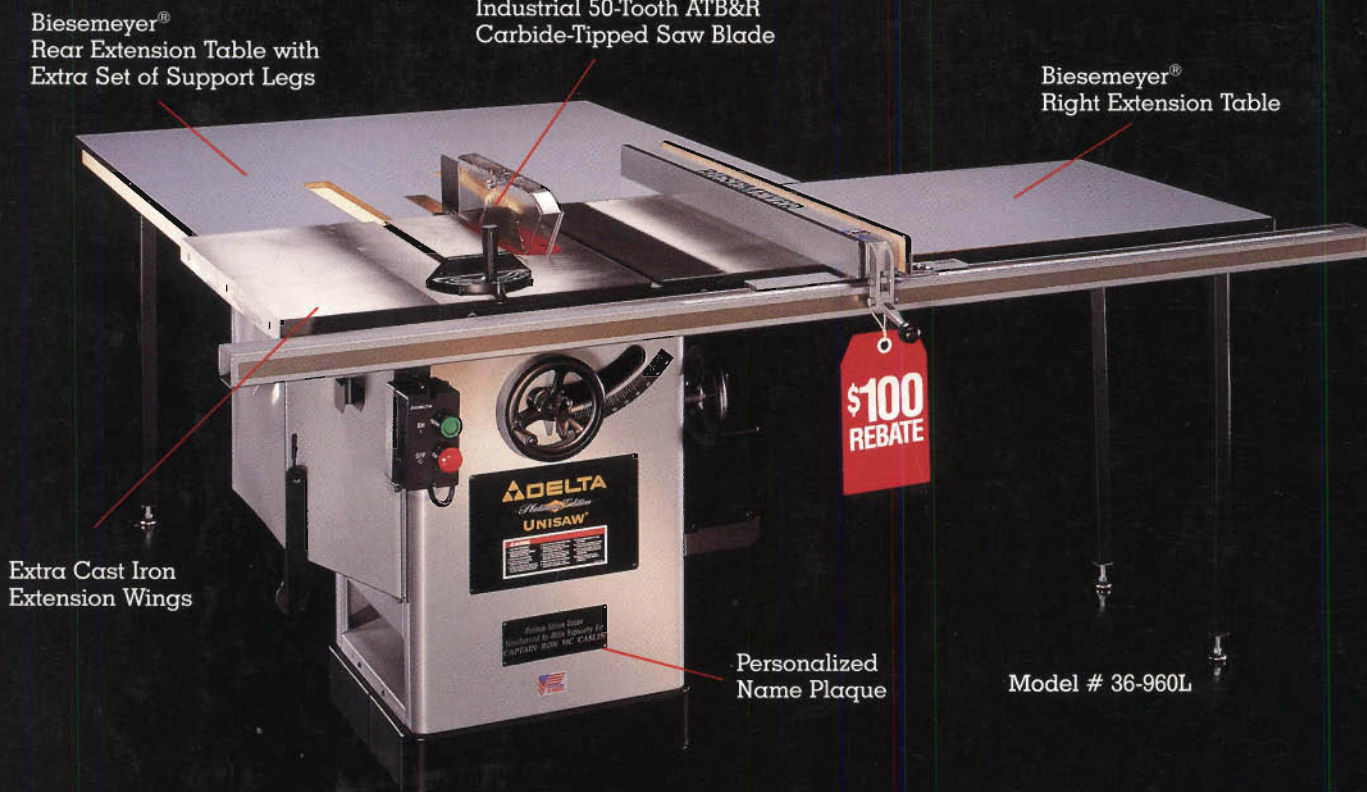
Amana Tool®

FOR OUR NEW CATALOG OR A DEALER
NEAREST YOU CALL 1-800-445-0077

or visit our web site at www.amanatool.com

(Circle No. 04 on PRODUCT INFORMATION form)

Delta Platinum Editions. Our fully loaded luxury models.



Now with up to \$600 worth of extras.

Our Platinum Edition Series. Machines that are the standards of the industry. But loaded with extras that go way beyond anyone's standards. Extra cast iron, souped up models of every machine, custom fence options, right or left tilt table saw options. All sweetened with rebates. And all done in platinum. Offer extended through June 30, 2001. For the name of your nearest Delta dealer, call Delta Machinery, 1-800-438-2486. In Canada, 519-836-2840. www.deltamachinery.com

**SERIOUS
WOODWORKING TOOLS
SINCE 1919.**

DELTA
MACHINERY
A Pentair Company

Proud sponsor of *The New Yankee Workshop* with Norm Abram and *The American Woodshop* with Scott Phillips.



\$50 REBATE.
10" Contractor's Saw®
Model # 36-477



\$50 REBATE.
10" Contractor's Saw®
Model # 36-485



\$50 REBATE.
14" Band Saw
Model # 28-263



\$100 REBATE.
Unisaw®
Model # 36-955



\$100 REBATE.
Unisaw®
Model # 36-957



\$100 REBATE.
Heavy Duty Shaper
Model # 43-424

(Circle No. 25 on PRODUCT INFORMATION form)