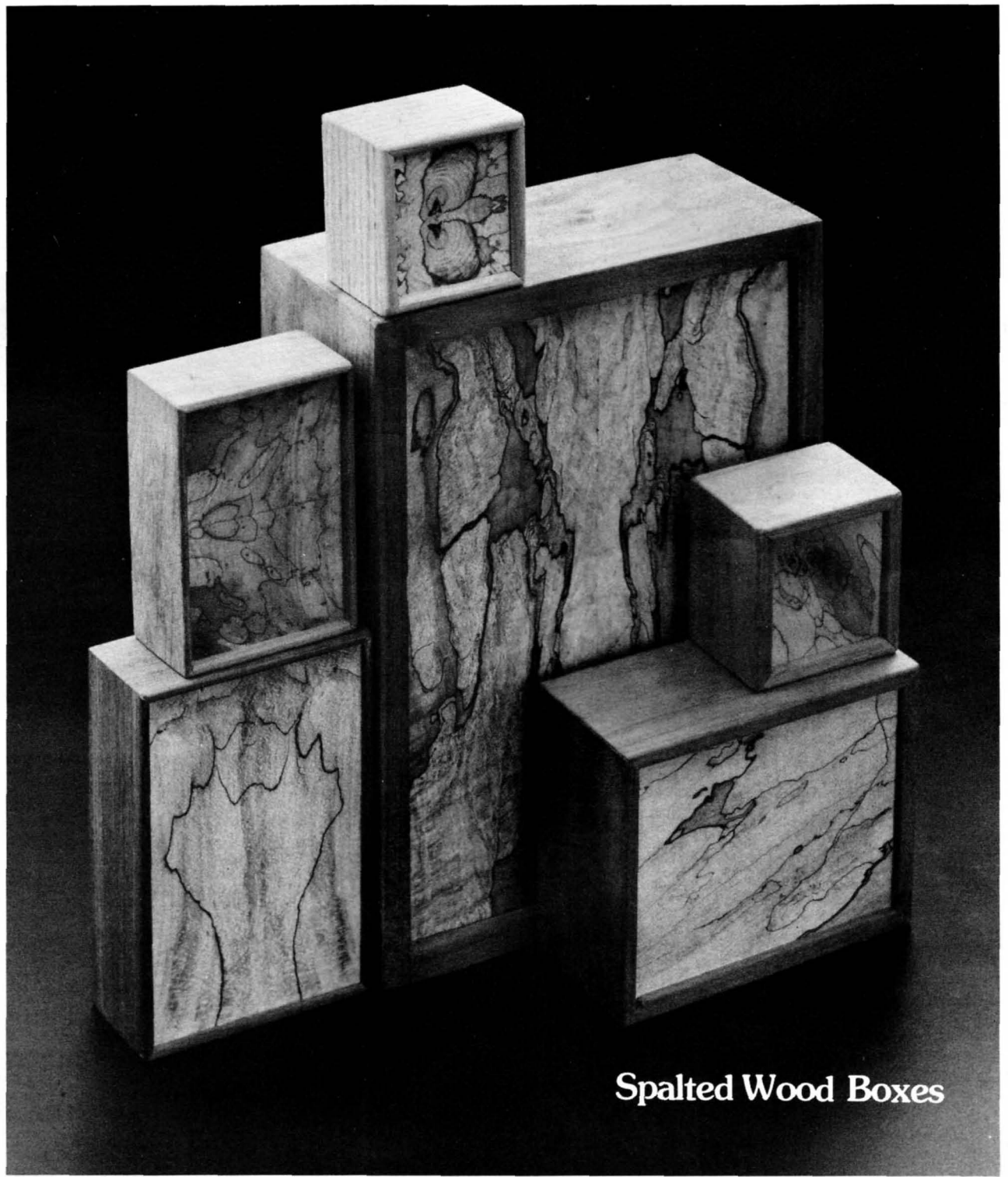

The Woodworker's Journal

Vol. 5, No. 5

September/October 1981

\$2.25



Spalted Wood Boxes

Included In This Issue: 18th Cent. Rudder Table · Woodbox
Musical Jewelry Box · Toy Hippo · 18th Cent. Tavern Table
Sewing Cabinet With Tambour Doors · Deacon's Wall Shelf

Shoptalk

I've been intrigued by the increasing interest in Japanese woodworking tools. Many mail-order firms selling tools now have several catalog pages devoted to Japanese tools and I know of at least one firm that deals exclusively in them.

These tools range in quality from Apprentice through Professional to Master's grades and the differences in price between the grades is startling. A *Ryoba* carpenter's rip saw, with teeth on both edges of an 11 inch long blade, can range in price from \$13.00 to \$274.00. Needless to say, the saw selling for \$274.00 is a very special quality tool made by a Master for Masters' use. Most of the saws of this type are closer to \$25.00.

Smoothing planes, which have oak bodies and blades of laminated high-carbon and low-carbon steel, range in price from \$25.00 to the staggering sum of \$375.00 for a masterpiece with the iron etched with acid to simulate wood grain. Generally, a fine quality Japanese tool can be purchased for about the same amount as its Western counterpart.

Most Japanese tools are very beautiful in their simplicity and economy of design. They have evolved over many centuries in the Japanese tradition of achieving excellence through a highly ritualized approach. Keep in mind though that Japanese joiners do much of their work sitting on the floor or at very low benches. For this reason, their saws and planes are designed to cut on the pulling stroke. The saws have very thin blades which cut with surprising ease on the pull stroke but will buckle or break if used in the Western way of applying pressure on the pushing stroke. I've been doing things in the Western way long enough for my brain to have deep memory tracks (call them ruts if you will) that

tell me to cut on the push stroke, so using a Japanese saw requires considerable concentration. Younger and more adaptable woodworkers will, no doubt, have less trouble.

The planes, being of wood with a simple wedging of the iron, are fussy to adjust and generally require some truing up and sharpening before initial use, as well as careful maintenance thereafter. Of course, this is also true of the Western wooden planes.

The point I'd like to stress is that Japanese tools should not be purchased simply for the sake of novelty. To use them efficiently and with pleasure requires a commitment to the subtleties of Japanese techniques. For this reason I'd recommend that, along with the purchase of tools, you also get the book *Care and Use of Japanese Woodworking Tools* by Kip Mesirow and Ron Herman. This book is sold by most firms that offer Japanese tools. In addition, *Fine Woodworking* magazine, issues 20 and 29, contain in-depth articles on the care of Japanese planes. These back issues are available at \$3.00 each from The Taunton Press, 52 Church Hill Rd., Newtown, CT 06470.

Japanese tools are carried by The FineTool Shops, P.O. Box 1262, Danbury, CT 06810 (their Japanese tool catalog is free), Woodcraft Supply Corp., 313 Montvale Avenue, Woburn, MA 01888 (catalog \$1.00) and Woodline, The Japan Woodworker, 1731 Clement Ave., Alameda, CA 94501 (catalog \$1.50).

Some of the other Japanese hand tools such as chisels, marking gauges, hammers and hatchets are of excellent design and quality and can be used in the Western way. Serious amateur woodworkers who are willing to respect the uniqueness of Japanese tools will add a new dimension to their enjoyment of working wood. Sayonara.

Jim McQuillan

WOODCARVER

"ROUTED SIGN MAKING MACHINE"



- for
- SIGNMAKERS
 - BUILDERS
 - CRAFTERS
 - RETIREES
 - OTHERS



PRICE: \$1995

Bank Approved for Financing

Size: 48"W x 32"D x 20"H
Ball Bearing Movements
Ratio 1:1 WT. 175 lbs.

Permanent Templates Available.
Engraves Pictures, Cuts Out Letters.
Special Tracer Copies Pencil Sketch.

Now you can make your own professionally-carved wood signs. The KIMBALL WOODCARVER (patent pending) is ideal for starting a new business or to enhance and diversify a going profession. The machine's simplicity of operation and ball bearing action enable anyone to produce attractive, deeply routed signs and pictorials in minutes. Compact, economical "Dust-Free". Factory-to-you prices. Write for brochure.

KIMBALL WOODCARVER MFG. COMPANY

2602 Whitaker St. — Savannah, Ga. 31401

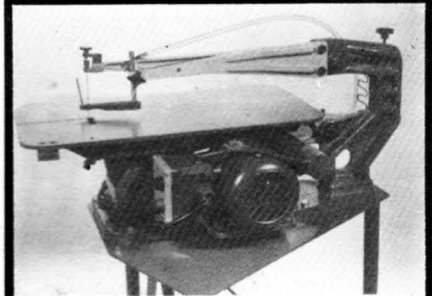
Write or Phone (912) 232-6561

HEGNER

POLYMAX-3

World's First

UNIVERSAL
PRECISION SAW



- World Patents
- Made in Germany

Hegner Precision Saws cut:

- PRECISELY - RAPIDLY
- virtually without blade breakage
- EVERY Kind of Wood up to 2"
- Plastics up to 1 1/2"
- Non-Ferrous Metals up to 3/4"
- Med. Hard Steel up to 3/8"
- Turning Radii as small as 0.002"
- No Relief Cuts necessary
- No Finishing necessary
- Easy and Safe to Operate

HEGNER SAWS - A Cut Above!

(Model Multimax-2 also available)

2735 Tanager Dr. w j
Wilmington, DE 19808
AMI, Ltd. Phone 302-999-9233

Letters

I am in the process of building a dining room trestle table made entirely of walnut and would appreciate your advice as to the type of finish to use. Is one type of finish (topcoat) better than another for the table top? This is the area I want to have adequate protection for against spills, hot food, water, etc. and at this point I'm rather confused as to what type would be best - we have children, so I do need adequate protection.

I'd like to use Watco Danish Oil finish for all other parts of the table but do not believe this would be satisfactory for the top.

Bob Mallard, Canton, IL.

John Olson replies:

I'd advise Mr. Mallard to use Watco for the entire table, including the top. Watco enters into the pores of the wood and polymerizes into a solid which, in effect, case hardens the surface. The beautiful thing about Watco is that stains, scratches and other blemishes can be removed with fine sandpaper and the surface can be reoiled with Watco at any time during the life of the piece of furniture. This

treatment will leave no trace if the blemish is repaired properly. I have a set of solid walnut family room furniture that I finished with Watco about 17 or 18 years ago. With periodic cleaning, spot repair, and reoiling it still looks like new. Generally speaking, polyurethanes and similar hard, clear finishes are not suitable for the type of service Mr. Mallard foresees for his table. They are hard to repair and require periodic stripping and re-finishing.

I have been having trouble putting polyurethane on over a stripped piece of furniture. It bubbles up and has to be removed. I don't know what I'm doing wrong.

I would really appreciate any help in this matter.

Alice Trinkle, Rushville, IL.

John Olson replies:

It appears that the piece was not properly cleaned after stripping. Any paint remover residue left in the pores of the wood will cause the kind of trouble she describes. The manufacturer's instructions should be followed very closely if a commercial remover is used. Since I don't know which stripper was used, I can only make some general remarks. Most water clean-up strippers contain a caustic of some sort which has to be neutralized. A very

dilute solution of vinegar and water works well when followed by a thorough washing with clear, clean water. Other stripping agents with hydrocarbon bases should be cleaned thoroughly after use with a 25% - 75% mixture of alcohol and lacquer thinner. In both cases, a finish sanding with 180 to 220 grit paper will help remove any remaining residue.

In some of your projects you use a fraction such as 8/4 or 5/4 to call out lumber thickness. What do these fractions mean?

L.D. Fisher, Kansas City, MO.

The lumber industry specifies the thickness of boards by using what they call a "nominal" dimension. The dimension can be expressed in two ways, either as a whole number, or as the fractional equivalent of that whole number. For example, 2" nominal stock is the same as 8/4 (pronounced "eight-quarter") stock. (The fraction 8/4 is converted to the whole number 2 by dividing 4 into 8.) The terms are used interchangeably, so sometimes you will see 2", other times 8/4.

Remember though, the nominal dimension represents the thickness of the board when it is initially cut from a log at the sawmill. This newly cut

(cont'd on page 8)



**CRIBBAGE
TRESTLE
TABLE**

**FULL SIZE
TRACEABLE
PATTERN**

Add a personal touch of warmth to your home by creating this simple, beautiful trestle table, perfect for any living or family room. The sturdy design (34"L x 11"W x 19"H) allows it to be used as an end, cocktail, coffee or snack table, and also as a bench. This inexpensive project can be constructed with only five common 2x4's. Detailed step by step instructions are included for only \$4.00. P.S. If you don't play cribbage, don't drill the holes.

Cherry Creek Patterns, Dept. WJ51, Pattern No. 22
719 Forest Court, Fond du Lac, WI 54935

SPLINTER REMOVER

REMOVE SPLINTERS FAST! Surgical steel tweezer for easy safe splinter removal. Great for metal, glass, thorns, ingrown hairs. Useful tool for model makers & electronic buffs.

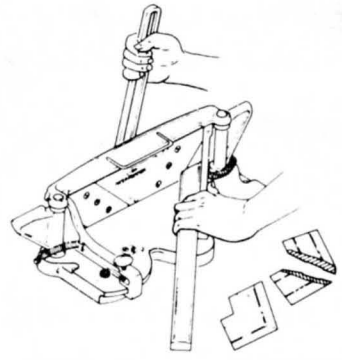


Call toll free! 1-800-645-3340
In N.Y. call: 516-944-9753
or send check, Visa or
Mastercard holder name,
no., & exp. date, to:
Tweezerman
West Shore Rd.,
P.O. Box 761B
Port Washington,
NY 11050

2.95*
includes shipping







*6.95 for same model
made in Pakistan.

PERFECT MITERS



GLASS-SMOOTH CUTS
Any wood: soft or hard
Any angle: 45° - 90°

**MAKES A SNAP OUT OF MAKING
CLEAN, PRECISE CUTS LIKE THESE:**

 ROUNDS	 COMPOUND MITERS	 BEVELS
 SQUARE END PLANING	 CHAMFERS	 MITERS

Write: Lion Miter Trimmer • RR#2, Box 18, Dept. WJ9
Windsor, Vermont 05089 (603) 675-2105

Name _____
Address _____
Zip _____

**Finish Wood
Like An Expert!**

WATCO

*The Original and
Still the Best*

**DANISH OIL
WOOD FINISH**

One easy application primes, seals, hardens, protects, beautifies!

With Watco you just WET-WAIT-WIPE, and you have an elegant, extremely durable finish that would please the most critical professional.

Watco penetrates deeply — creates a tough finish INSIDE the wood — makes wood up to 25 percent harder. Can't chip, peel or wear away like a surface coating. Stains, scratches or minor burns usually are spot repairable.

For complete information fill in and mail the coupon.

WATCO DENNIS CORPORATION
1756 - 22nd St., Dept. WJ-91
Santa Monica, California 90404

Send Free booklet "How to Beautifully Finish Wood."

Name _____

Street _____

City _____

State _____ Zip _____

ROCKING CHAIR



It rocks without rockers

Folds for storage. Will support over 240 lbs. Made of clear pine and sanded for finishing. Due to size, chair is sent unassembled. Only a screwdriver needed for assembly. All parts including pillow and seat are shipped by UPS. Seat and pillow come in tan or brown. Specify color when ordering CHAIR KIT.

Send check or money order for \$29.95 for chair kit or \$4.00 for plans. to:

BENNETT WOOD PRODUCTS

Rt. 8, Box 680 S. Pensacola, Florida 32506
VISA or MASTERCARD WELCOME
Include card number and expiration date.

**CHAIR CANE - RUSH - SPLINT
PREWOVEN WEBBING**

Restore an Antique
for Pleasure or Profit

- or -
Complement a New Project

Large Selection/Prompt Delivery

Brochure/Price List 50c

Connecticut Cane & Reed Co.

P.O. Box 1276W, Manchester, CT 06040
(203)646-6586

WOODWORKERS—SLIDE materials off YOUR shop tools onto OUR wide rollers for:
safety,
accuracy,
and convenience

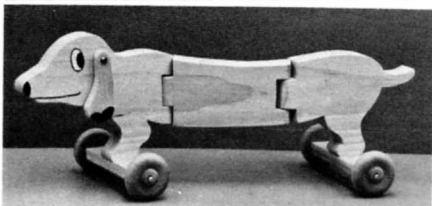
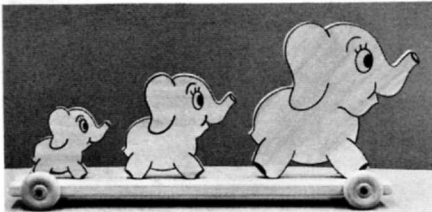


**SUPPORTABLE
SUPPORTABLE
SUPPORTABLE**

Folds for easy storage & other unique features
For Info.
Send \$1 to: Turning Point Mfg, Inc. RR-2F Davenport, N.D. 58021

TOY PLANS

You will enjoy making these wooden toys using our full-size plans. Simply trace and cut.



Oscar the Pup and Elephant Family are each 18 inches long. Wheels included with plans. Animal Plans Both for \$5.50



Toy trucks for tots. Trailer is 18" long. Wheels not included. Order wheels separately. Special Offer Four Truck Plans for \$6.00
Catalog of Plans & Supplies \$1.50

ARMOR PRODUCTS

Dept. H Box 290
Deer Park, NY 11729

If you thought "Swiss-Precision" could only be found in watchmaking, then you don't know about our power tools.

Only you know how good your tools have to be. When it comes to woodworking machinery, they should be better than you are—even if you're already an accomplished craftsman. Therefore, you owe it to yourself to learn more about our Swiss-made line of INCA stationary power tools which we sell throughout these 50 states.

Take the 10" Cabinetmaker's Saw, for example. It has a 20mm (25/32") arbor at the blade for strength and rigidity where it counts. The table castings are tough, precision milled alloys and the guide rails are aircraft quality extrusions. All the major rotating parts are dynamically balanced. The bottom line is a machine that takes higher loadings and gives you less vibration with a truer running saw blade.

If fact, every one of our INCA saws, jointers, planers and shapers are built to quality standards which are becoming increasingly hard to find in this country. That's because they're made with the same pride of workmanship as the Swiss put into their watches.

Our catalog is a good place to begin your comparisons. We want you to be as good as you can get.



Garrett Wade Co., Dept. WWJ-9-81
161 Ave. of the Americas, N.Y., N.Y. 10013

National Sales

Gentlemen:

Send me your INJECTA INCA catalog. Enclosed is \$1.
 Here's another \$1 for your 116 page catalog of quality hand tools.

Name _____

Address _____

City _____ State _____ Zip _____



The Standards of Excellence



→→→ Swiss Made Carving Tools

do exactly what is expected—shave wood smoother and more precisely than any other tools made. European craftsmen have relied upon these Swiss Made carving tools for 80 years. Their excellence is the result of three generations of Swiss toolmaking experience and the continuing cooperation and advice of the Swiss Carving School at Brienz.

This commitment to quality means that the blades are still hand forged, finished, and sharpened by skilled toolmakers. Of course the latest techniques are used to heat-treat the steel alloy. The octagonal handles are select European Ash and designed to put more control in the hands of the carver.

Swiss Made carving tools have earned a reputation for precision and quality among American craftsmen since their introduction by Woodcraft, as sole U.S. agent, 18 years ago. To meet the needs of carvers and craftsmen who desire the finest woodworking instruments, Woodcraft offers 8 different sets and over 150 styles of Swiss Made carving tools. For complete information on styles, specifications, usage and ordering information, please refer to our catalog.

The 1982 Woodcraft Catalog

The Woodcraft Tool Catalog has been imitated but never equaled. For 18 years it has brought the finest woodworking tools in the world to American carvers, cabinetmakers, wood turners, and other discriminating craftsmen.

Two year subscription, \$2.50.

Color, 112 pages, perfect bound.



WOODCRAFT®

Dept. WJ91, 313 Montvale Ave.
Woburn, MA 01888

I enclose \$2.50 for a 2-year Woodcraft Tool Catalog subscription (refundable).

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

THE WORLDS FINEST WOOD LATHE CUTTING TOOLS

DIACCURATE™



DIACCURATE™ the tool that automatically quits cutting when right size is reached. DIACCURATE™ is made of extra high carbon tool steel so the keen edge can be sharpened for years of dependable use. Ten sizes, $\frac{3}{8}$ - $\frac{7}{16}$ - $\frac{1}{2}$ - $\frac{9}{16}$ - $\frac{5}{8}$ - $\frac{3}{4}$ - $\frac{7}{8}$ -1-1 $\frac{1}{8}$ -1 $\frac{1}{4}$. \$17.95 each or set of ten for \$162.55 and save \$16.95.

Mo. Residents add 3.625% sales tax.

Send for free brochure.

30 DAY MONEY BACK GUARANTEE.

U.S. orders shipped prepaid.

Name _____

Address _____

City _____ State _____ Zip _____

Check or Money Order

Visa MasterCard

Card No. _____ Exp. Date _____



Patent Pending

EARN A LIVING WITH YOUR CRAFT

COMMERCIAL CABINETMAKING PROCEDURES

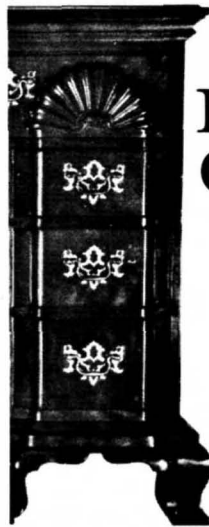
for pleasure or profit
a fully illustrated shop manual
written by pros for the
SERIOUS WOODWORKER

\$10 postpaid. \$10.60 Cal. \$12 Canada

Artisan Woodworkers

21415-E Broadway, Sonoma, Ca. 95476

Before Your Next Woodworking Project



Send For Our Catalog

We'll tell you about our fine selection of hardwoods, veneers and turnings to meet all your needs!

Send 50¢ for the details to:

American Woodcrafters

Est. 1875

P.O. Box 919, Dept. WJ, Piqua, Ohio 45356

Whole	Nominal		Actual	
	Fraction	Hardwood	Softwood	
1	4/4	13/16	3/4	
1 1/4	5/4	1-1/16	1 1/4	
1 1/2	6/4	1-5/16	1 1/2	
2	8/4	1 3/4	1 3/4	
2 1/2	10/4	2 1/4	2 1/4	
3	12/4	2 3/4	2 3/4	

I build backgammon boards out of a combination of wooden frames and leather inlaid boards. My most difficult task is finding the playing pieces for the game. Can you tell me where these can be purchased?

Bruce Greenfield, Philadelphia, PA.

Unfinished backgammon checkers are available from Constantine, Inc., 2050 Eastchester Rd., Bronx, NY 10461. All pieces are solid birch. The set has 32 pieces and includes walnut stain to make the dark colored checkers. Price is \$3.50 plus shipping.

Would you please advise where I can find a source for the glass bulbs used for hourglass timers?

Frank Plewa, Enfield, CT.

Handblown European hourglasses are available from Woodcraft Supply Corp., 313 Montvale Ave., Woburn, MA 01888. Three-minute, ten-minute, and one-hour glasses are offered. Each glass is filled with fine-grain sand. Mounting tips permit the glass to be secured to wooden bases.

(Cont'd on next page)

Sleeveless DRUM SANDER

USE ON:
Drill Press
Small Motor
Lathe
Shopsmith
Radial Saw
1/4" Drill

NO PRE-MADE SLEEVES TO BUY

ECONOMICAL—Simply cut sandpaper from standard size sheets. UNIQUE way of holding paper to drum. Twist of key tightens. SPONGE RUBBER backing insures long wear of paper.



1"x3" long	\$13.50
2"x3" long	\$14.50
2 1/2"x3" long	\$15.25
3"x3"	\$16.50
1" and 2 1/2" ABOVE	\$26.75
ABOVE 4 DRUMS	\$53.50
3/4"x3" long	\$14.50
2 1/2"x4 1/2" long	\$21.00
3"x4 1/2" long	\$22.50
2 1/2"x6" long	\$25.50
3"x6" long	\$27.50

Add \$2.50 Per Order For Shipping

MONEY BACK GUARANTEE

HUBS AVAILABLE:
1/2" Bore with 1/2" or 3/4" adapter
1/2-20 R.H. Thread except 3/4"x3"
3/4" Bore except 3/4"x3" and 2"x3"

Send Check or Money Order
SINGLEY SPECIALTY CO. INC.

P. O. Box 5087-J Greensboro, N.C. 27403

WOODWORKERS — HOBBYISTS

America's Most Unique CATALOG

of Hard-To-Find SUPPLIES

New 1982 catalog containing just about everything for the Home Craftsman. Hundreds of new, different and most needed home-craft supplies. Chair cane, lamp parts, large selection of Swiss musical movements, wooden wheels, hand and power tools, furniture hardware, lazy Susan bearings, upholstery supplies. Complete line of finishing materials, glues, plans, books, projects, etc.

Send \$1.00 (refundable with order) for this large illustrated catalog today!

BARAP Specialties, Dept. WJ7
835 Bellows, Frankfort, Michigan 49635

BUILD IT YOURSELF BETTER AND CHEAPER

WOODEN TOYS · ACCENT FURNITURE
PLAQUES · PUZZLES · BIRD HOUSES
PLANTERS · LAWN ITEMS · BOOKS



HUNDREDS OF ITEMS

FREE OFFER WITH CATALOG

FULL SIZE BLUEPRINT PATTERNS & BOOKS
CATALOG \$1.00 (REFUNDABLE) — 1982 Edition

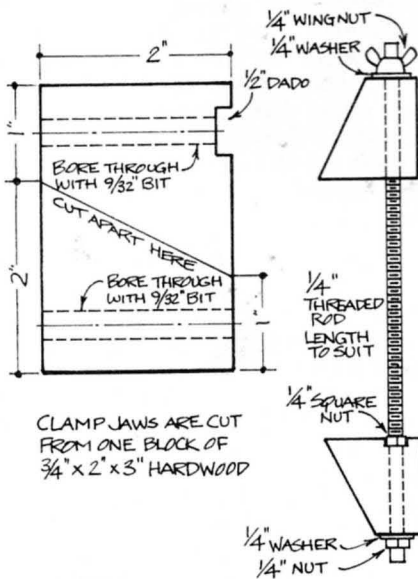
DESIGN GROUP • Box 514-F • Miller Place, N.Y. 11764

Letters (Cont'd)

In the "Shop Tips" section (pg. 28) of your July/August 1981 issue, you show a method of making light-duty clamps. I made four of them and think they are great. In the process of making them, however, I discovered an error. In your drawing, the left-hand drawing shows the dado cut in the 1" wide portion of the block. The right-hand drawing shows the dado as having been cut on the 2" portion of the block. The latter, of course, is correct.

Neil Palmer, Toledo, OH.

Our thanks to Neil (and several other readers) for bringing this to our attention. Here's how the clamp should look.



CLAMP JAWS ARE CUT FROM ONE BLOCK OF 3/4" x 2" x 3" HARDWOOD

Could you please advise where I can get ideas for workshop layouts?
Paul Thornhill, Danville, KY.

Try the book *The Complete Book of Home Workshops* by David Manners. It's published by Harper and Row and the price is \$12.95.

I would like to join a local woodworking club. Would you please send me the address of any New York - New Jersey club.
William Mirabello, Staten Island, NY.

I'm afraid we don't know of any woodworking clubs in the metropolitan New York area, although there are probably several of them. If readers can provide any help, we'd be happy to pass the information along to Mr. Mirabello.

We've recently noticed that there seems to be a growing interest in woodworking clubs of one sort or another. We wondered if there were other readers, like Mr. Mirabello, who

(cont'd on page 12)

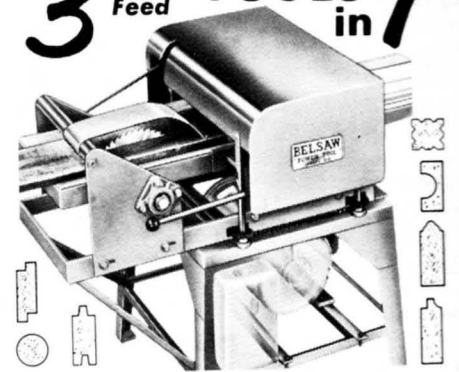


Deep Penetrating

with urethane added for extra durability.

Planer Molder Saw

3 Power TOOLS in 1
Feed



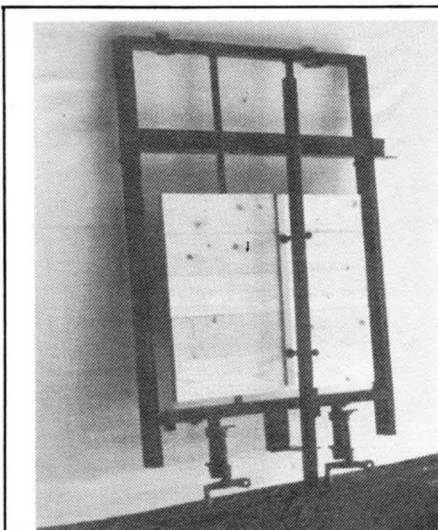
Now you can use this ONE power-feed shop to turn rough lumber into moldings, trim, flooring, furniture — ALL popular patterns. RIP-PLANE-MOLD . . . separately or all at once with a single motor. Low Cost . . . You can own this power tool for only \$50 down.

30-Day FREE Trial! SEND FOR EXCITING FACTS
NO OBLIGATION—NO SALESMAN WILL CALL
RUSH COUPON TODAY! BELSAW POWER TOOLS CO.
9347 Field Bldg.
Kansas City, Mo. 64111

BELSAW POWER TOOLS
9347 Field Bldg., Kansas City, Mo. 64111

YES Please send me complete facts about PLANER—MOLDER—SAW and details about 30-day trial offer.

Name _____
Address _____
City _____
State _____ Zip _____



\$49.95

Price does not include 3/4" pipe clamps.
Plus \$6.00 for postage in the continental U.S. Michigan residents add 4% sales tax. Please allow 4-6 weeks for delivery.

Great Lakes Manufacturing
314 Straight S.W.
Grand Rapids, MI 49503

If you consider yourself a little better than a novice wood worker, surely you have experienced....



This inconvenience happens during multiple board gluing. Under tightening pressure the stock naturally wants to lift up and pop out of conventional clamps.

Solution: A new clamping system. We call it a "Clamp Bed". It's a steel structure measuring about 2'x3'. It's constructed of sturdy 14 ga. 1"x2" rect. tubing and 1/8" angle. It has an adjustable back stop which takes widths up to 33". A unique feature is a stable clamping plane, so you have a flat surface to work on preventing wing or twist in your job. It has a unique top bar available in no other clamping system to hold stock flat. This allows multiple board gluing in one glueing session without the problem of popping out like regular clamps. And the Clamp Bed won't hog up your shop! It stays on the wall. That's right, it mounts on the wall on a slight angle. You just stack your boards up in there, tighten 'er up, and go back to work on a clear work bench. Imagine that!

If you're into quality cabinetry you can realize the value of this unique product. If you have an idea what 30 lbs. of structural steel is worth, the cost of 20 minutes worth of welding, or 50 minutes worth of metal processing, you can see a real value here. Especially when a pair of good bar clamps are worth \$40 alone.

The Clamp Bed incorporates 3/4" pipe clamps which remain removable for odd jobs. We don't include the pipe clamps, but chances are you already have some, and you'll be happier than a pig in mud when you screw em on there!

**HARDWOOD
TURNING SQUARES**

Cherry, Ash, Maple etc.
Kiln Dried & Mill Direct

1 1/4" TO 3" SOLID SQUARES
UP TO 30" LONG

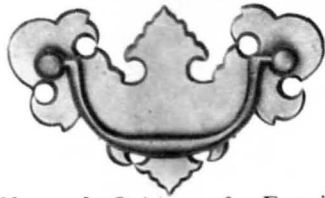
SEND 25¢ FOR COMPLETE LISTING

CRYDER CREEK WOOD SHOPPE
BOX 19 WHITESVILLE N.Y. 14897

**"FREE"
TURNING BLANK**
WITH EACH ORDER

HORTON BRASSES
Nooks Hill Road P. O. Box 120WJ
Cromwell, CT 06416 (203) 635-4400

HORTON BRASSES are authentic
copies of 17th, 18th, 19th & early
20th century pulls.



Mfrs. of Cabinet & Furniture
Hardware for Homes & Antiques.
Send \$1.50 for a Catalogue.

Letters (Cont'd)

would like to join a club but had no way to know if one was nearby. It occurred to us that a listing of woodworking clubs could be helpful, so we'd like to include one in a future issue. If you belong to a woodworking club and would like to be listed, please send us the club name and address and we'll see that it gets included.

Would you be able to tell us where to find an electric branding tool that can be custom made with our logo rather than the usual two line - 20 letter type?

The Wooden Knot, Nicholasville, KY.

The Frog Tool Co., Ltd., 700 W. Jackson Blvd., Chicago, IL 60606, can put a logo on a branding iron as long as the logo is less than 2" x 3". They suggest that it be kept simple without fine detail. Long skinny designs should be avoided because they cannot be evenly heated. Also, small letters cannot be made. Price is \$127.00 ppd.

I am an industrial arts teacher and have found your project ideas excellent. I also teach evening adult education and the projects have been equally useful for the adults.

In your most recent issue (July/August 1981), I noticed something I felt should be drawn to your attention. In the section "The Beginning Woodworker", several of the sketches on page 12 show the rip fence and the miter gauge being used at the same time. I know that the operation you are showing presents no hazard because the workpiece is never cut in half - just dado cuts and angle cuts. However, because this section is geared for the beginner, I think it would have been a good idea to mention that using the rip fence and miter gauge together, under any other condition, is not advisable, and is, in fact, unsafe.

In teaching youngsters and beginning adults, I've learned never to assume anything and I'm afraid a reader might see this section and think that it's o.k. to cut off boards using the miter gauge in conjunction with the rip fence. It's not.

Richard Buxton, Falls Church, VA.

A few months ago I received a copy of your January/February 1981 issue. After looking it over I decided I liked the Black Forest clock project. Never having done any woodcarving before, I plunged in just like I knew what I was doing, and I think I did a darn good job - for a kid. I'm only 74 years old. Now you guys got me hooked on woodcarving.

Pat Dugan, Placerville, CA.

Act Now...Special Sale Price \$11.95

Drill cleanly shaved, precisely placed holes

WOODBITS

WON'T TEAR GRAIN,
SPLINTER, CLOG OR BIND
LIKE ALL-PURPOSE BITS

Designed to satisfy the standards of the most meticulous craftsman, this unique bit also gets the beginning woodworker off to a great start.

- Center spur point holds the bit on target, pilots the hole, and prevents walking.
- Two knife-sharp cutting flutes cut and shave a perfectly round, clean hole.
- Flutes are designed with maximum clearance for chip ejection—won't clog or bind.

Chrome, vanadium alloy steel set includes 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2" sizes. Fit any 1/4" or larger power drill. Buy direct. Not available in hardware stores.

FREE PLASTIC INDEX for handy storage

Set for WOOD-Drills 7Z7
1/2 7/16 3/8 5/16 1/4 3/16 1/8 Tips

7 piece WOODBIT SET packaged in plastic index with hinged cover for easy access and handy storage—\$11.95

FOR PRECISION DRILLING...

7-Piece DEPTH ADJUSTING COLLAR Set \$6.95



Place the collar over the bit at the desired hole depth, and tighten the set screw to hold collar in position—then drill.

SAVE \$2.00—Buy both Woodbit and Collar sets—only \$16.90

	How Many	Description	Price Each	Total Price
please send me		7 pc. Woodbit Set	@\$11.95	
		7 pc. Collar Set	@\$ 6.95	
		Woodbit & Collar Sets	@\$16.90	
Net Amount of Order				
J Shipping, Handling, and Insurance				\$1.75
Illinois Residents Add 6% Tax				
Total				
<input type="checkbox"/> Check or Money Order enclosed				
<input type="checkbox"/> Master Charge <input type="checkbox"/> VISA				
ACCT #				EXP DATE
NAME				
ADDRESS				
CITY				STATE & ZIP

**ORDER BY PHONE:
(312) 640-7766**

AMERICAN INTERTOOL, INC.
1600 Jarvis Ave.,
Elk Grove Village, IL 60007

Workshop Income

By Paul Levine

When Janet and I bought a new refrigerator we needed to make two trips to the bank in order to pay for it. It was a real beauty though, and when we finally got it into the kitchen, it was a pleasure taking off all that protective material, before giving it a good cleaning and stuffing it full.

However, it wasn't long before this new member of our household started to show a nature that was somewhat less than charming. For one thing it made a great deal of noise. The old one, which we sold for \$25.00, never made a sound.

After a few service visits things finally seemed in order, but to be on the safe side we went out and picked up a second hand refrigerator from an apartment house superintendent for \$15.00. With all the service trips we were losing a lot of coleslaw so we felt the expense was more than justified. As you might imagine, that little old box ran quietly, cheaply, and dependably, just like our old one.

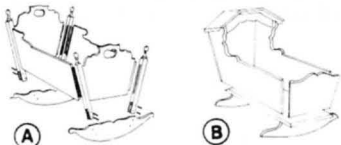
What is this all about? Why is he crying about yesterday's coleslaw? Well, let me tell you. I've been given the opportunity to use some old industrial quality woodworking machinery. These old machines are not as versatile as the newer machines or the multi-purpose ones, so they will take up more space. But unlike much of the woodworking equipment that's made today, these older machines are solidly built - and they do the job they are supposed to do... and do it well.

Your local telephone directory is the most likely place to find used equipment suppliers. Look under headings "Woodworker's Equipment & Supplies", or "Industrial Equipment & Supplies". These outfits usually carry used equipment-if they don't, they probably can tell you who does. Also, school systems will periodically replace their equipment, so you may want to check with your local Board of Education to find out what they do with the old machines. It's also a good idea to check the classified section of your local newspaper.

Purchasing used machinery will usually save you money-sometimes as much as 1/2 the price of new equipment, but keep in mind that there are some things to watch out for. It's not uncommon for used machines to have parts that are missing, or in need of repair or replacement. Before you buy, find out how much it will cost you to get the machine running properly. It's also important to remember that replacement parts are sometimes impossible to get-especially if the equipment hasn't been manufactured for years. Having a special part made at a machine shop probably won't be cheap. Also, many used machines require 3-phase electrical current. It's expensive to rewire for this, sometimes impossible. Converters are available, but they too can be somewhat costly.

If a machine can save you time, it saves you money. This savings can help you lower prices, to generate more business, or to increase your profit margin. You'll benefit either way.

CRADLE PATTERNS FULL SIZE



Simply trace directly on the wood, cut and assemble.

A. 18th century Pennsylvania German design fit for a little prince or princess. 36 1/2" long, 25 1/2" high.only \$5.00

B. Hooded colonial cradle in two popular sizes - Infant size, 37" long, 26 1/4" highonly \$5.00

Doll size, for dolls up to 24" long, 30 1/2" long, 21 1/2" high.only \$4.50

Send \$1 for fully illustrated offering of other fine furniture plans, retuned with first order. Va. residents add 4% sales tax.

Williams Fine Furniture Designer
PO Box 6626
Newport News, VA 23606

JIG BOOK FOR WOODWORKERS

The book for serious woodworkers. Shows how to duplicate parts & increase production. Over 80 jigs described & illustrated. Send for "Making & Using Simple Jigs". Only \$2.75

Making and Using Simple Jigs

Finishing Book \$1.75
Plans Catalog \$1.00
ARMOR PRODUCTS
Box 290, Dept. H
Deer Park, NY 11729

Swinging CRADLE

Easy to make with FULL SIZE FURNITURE PLAN



Authentic spindle design straight out of Colonial America. Plans show alternate construction with panel sides. Perfect for baby or use for magazines or fireplace wood. Size: 20" x 39" x 30". Order plan #166.....\$8.00
FURNITURE DESIGNS Dept. JS-91
1425 Sherman Ave. Evanston, IL 60201

CATALOG
170 diff., full-size
prof. plans—\$2.00
refunded with 1st order.

MAKE TOYS

Plans,
Hardwood
Wheels, Parts
Catalog \$1.00

Cherry Tree Toys, 2547 8th St., Berkeley, CA 94710

Wood-working Books

HUNDREDS of TITLES available, worlds largest selection send for free list:
BARK Service Co.
P.O. Box 637
Troutman, NC 28166

200 WOODWORKING PLANS

for home workshop or schools

A treasury of plans for every home workshop, school, library. 19 series of individually printed, easy-read drawings for novice to advanced craftsman, each with 10 or more complete plans.

- | | |
|------------------------|-----------------------------|
| 1. Colonial Series | 10. Wall Accessories |
| 2. Early American | 11. Wall Furniture |
| 3. Gun Cabinets | 12. Miniature Chests |
| 4. Spice Cabinets | 13. Wall & Shelf Clocks |
| 5. Wall Shelves | 14. Contemporary Series |
| 6. Grab Bag (15 plans) | 15. Old Salem Series |
| 7. Cape Cod Series | 16. Garden Projects |
| 8. Modern Series | 17. Shaker Furniture |
| 9. Outdoor Projects | 18. Country Kitchen |
| | 19. This 'n That (15 plans) |

FULL SET (200 plans) \$18.50 or select desired series. 1 series (10 plans) \$2, 4 series (40 plans) \$6. Price includes postage and handling. Catalog 50¢ or free with order. Money-back guarantee. Send to COLONIAL WORKSHOP, P.O. Box 41032, Dept. w, Sacramento, CA 95841

HIGH SPEED GRINDING FREE-HAND

When grinding chisels or plane irons you tend to squeeze hard so as to not lose your position that may change the bevel. Now you have a tendency to bear hard against the wheel, causing the tool to overheat and burn.

HIGH SPEED GRINDING WITH RIMA JIG

With this jig, the bottom lip holds the tool at the same bevel at all times. By using a light touch and sliding the jig from side to side you will find that the tool will not overheat. It is not necessary to quench the tool in water.

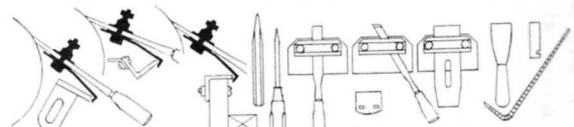


NEW IMPROVED MODEL NO. WJ3
CHISEL SHARPENING MADE EASY
Anyone can do it with this jig
Money back guarantee
HANDY GRINDING TOOL

Perfect Hollow ground bevels on blades to 2 1/2" wide, aluminum cons't, brass screws, nylon washers and rubber no-slip clamp surfaces.

Only 4 1/4 ozs. \$9.95 ppd., ck. or m.o. only.

RIMA MFG. CO.
P.O. Box 99 Quaker Hill, Conn. 06375



Restoring Antiques

by John Olson

Restoring Hitchcock Chairs

Four Hitchcock-type chairs presented me with some interesting restoration problems. These rush seated chairs are painted black and decorated with antique gold stripes on the front legs and the uprights supporting the back. The top cross slat is stenciled with a colorful flower design. These chairs have seen around 100 years of use and have a well developed patina of age - attested to by numerous scratches, dents and slightly splintered edges. The seats did not appear to be original, but with the exception of one chair, they were in fair condition except for a few broken strands. One had several adjacent strands broken. A previous owner had stuffed newspaper between the upper and lower layers of rush in an effort to tighten the seats and eliminate sag. Some of the rungs were loose in their sockets and several of the decorative side pieces were split and broken.

The obvious place to start the restoration was with the decorative side pieces. A misguided repairman had fastened these with large unsightly nails so my first task was to carefully remove each one. The broken pieces were repaired using Elmer's Carpenter's glue with firm clamping pressure. They then were reinstalled using 1" x #19 brads.

Loose rungs and joints were repaired by working Chair-Loc (P.O. Box 45, Lakehurst, NJ 08733, \$2.50 for a 3 oz. bottle) into the joints. In two cases it was necessary to drill a small hole in the joint so that the Chair-Loc could be applied with a hypodermic type glue injector.

The next step was to repair the seats. Loose and broken strands were glued to the underlying layer and to their neighbors. This was done by working Elmer's Carpenter's glue in between and under each loose strand. A stiff piece of cardboard was inserted under broken strands in the one

seat that had several adjacent strands broken. Glue was placed on both sides of the cardboard before insertion and then the whole was clamped using cauls (pine boards). A sheet of wax paper on each side kept glue from getting on the cauls. In the interest of aesthetics, all the glue on the upper surfaces of the strands was carefully removed. While this rush seat repair makes the seat somewhat stiff it allows the chair to be used for several more years before the seat has to be replaced.

In order to preserve the integrity of the patina of age (the owner is a purist), only the worst of the splintered and battered edges were smoothed with 180 grit sandpaper. After all repairs were completed, the sanded areas, and those in which the finish had worn off, were given a coat of flat black paint. Care was taken not to get any paint on the decorative painted flowers. The gold striping was ignored as most of it required repainting.

Striping is an art in itself but it can be mastered with time and patience. I use a sign painter's brush that has very fine hair-like bristles. It is about a 1/2 inch wide by less than 3/8 inch thick. The best approach is to use both hands and a stick to rest the right hand. Paint with short strokes using only finger movements. Guide lines drawn on the surface are a great help. The gold paint I used was a special mix concocted of gilt paint modified with colors-in-oil. The addition of some yellow, lamp black and Venetian red closely approached the existing color. These colors-in-oil also acted as thickening agents to bring the paint to a usable viscosity, and to bring out the antique gold color.

After a 24 hour drying period the chairs were carefully rubbed down with very fine 400 grit paper taking care not to remove any of the decorative detail. After this smoothing, two coats of a low luster acrylic finish were applied with the spray gun. I use Ben Moore's 4 Hour finish. It levels nicely and dries quickly. A second coat was applied in 3 hours so finishing was done in a day. This finish protects decorative painting and doesn't attack the underlying finishes if they have had sufficient time to dry.

Make Your Own Solid Cherry Rolltop Box

It Holds Your Jewelry And Other Special Things.

This unique rolltop box is made of solid cherry machined for easy assembly. We've included easy to follow instructions so you can complete this stylish rolltop box in just two hours. No special tools are needed. And like all Woodcraft products, your satisfaction is guaranteed. Measures 11" long x 7" wide x 4" high.

\$39.50
postage
paid.



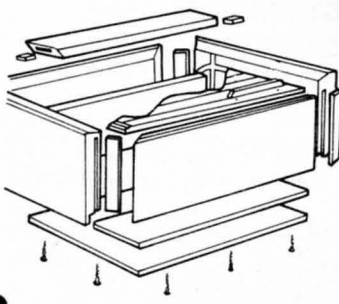
Make Them As Gifts Or For Yourself.

The Rolltop Box is just one of hundreds of kits, projects, books, supplies, and tools in the 1982 Projects Catalog.

Kits for:

- Toys • Clocks
 - Knives
 - Musical Instruments . . . plus much more.
- Many are not available anywhere else!

Now! A projects catalog from Woodcraft—serving American Craftsmen for over 50 years.



WOODCRAFT PROJECTS T.M.

Dept. WJ9A1, 313 Montvale Ave.
Woburn, MA 01888

Please send _____ Rolltop Box Kit(s) # 25L10-D at \$39.50 ppd. each

I enclose \$1.00 for a 2 year subscription to the Woodcraft Projects Catalog (free with order)

Payment by: Check MC AMEX VISA

_____ Expires _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

OR CALL TOLL FREE 800-225-1153 FOR CHARGE CARD ORDERS!

NATIVE AMERICAN HARDWOODS



WALNUT, BUTTERNUT, CHERRY
CURLY & BIRDSEYE MAPLE
Most other Domestic Woods

- EXTRA WIDE/EXTRA THICK STOCK
- SPALTED WOODS
- TURNING & SCULPTING BLOCKS
- SOLID SQUARES

Cabinet & Economy Grade Lumber
Stock for Woodwork Flooring, Paneling

NO MINIMUM—MAIL & FREIGHT SHIPMENT
DETAILED LISTING 50¢ (716) 942-6631

D.A. BUCKLEY, R2, W. VALLEY, N.Y. 14171

WOODWORKERS

Do-it-Yourself CATALOG



SAVE VAST SUMS. Build, restore, re-finish anything of wood! Here's everything you need. Fine woods, veneers, specialty tools, Cabinet hardware, period & modern. Pro finishes. Cane, Lamp parts, Uphol. supplies. Picture moldings. Clock kits. 100's of plans. Instruction books. Thousands of hard-to-find woodworker products in big new catalog. Mail ad for Catalog & 20 identified beautiful Wood Samples.

CONSTANTINE Est. 1812
2044 Eastchester Road, Bronx, N.Y. 10461

Here's \$1 for 104-page Woodworker Catalog, only.

\$2 enclosed. Send 20 Wood Samples with Catalog. \$1.50 refunded on 1st Catalog order.

Name _____

Address _____

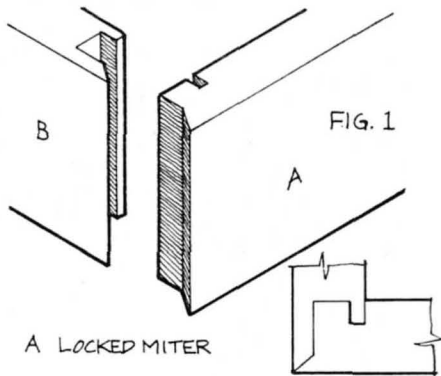
_____ ZIP _____

The Beginning Woodworker

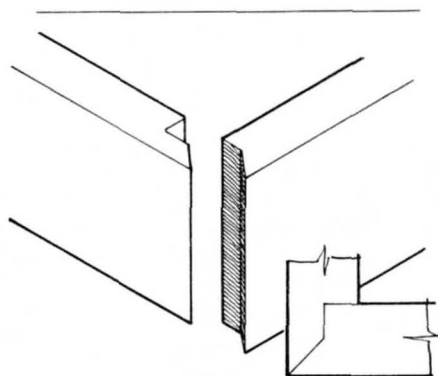
The Locked Miter Joint

In the previous issue we discussed the plain rabbet-miter joint as a solution to the problem of joining the sides of a case or box without showing end grain or getting involved in the cumbersome four way clamping setups required for plain or splined miter joints.

The locked miter is another more exotic version of the rabbet-miter joint (Fig. 1A). As with the plain rabbet-miter joint, the locked version presents the usual clean appearance of a miter joint and also requires clamping in one direction only. In addition, it is a stronger joint than both the splined miter and plain rabbet-miter joints.



A LOCKED MITER



B PLAIN RABBET-MITER

Locked miter joints can be used with either solid stock or plywood though care should be taken when machining certain solid woods to prevent chipping. As woodworking joints go, this one is fairly difficult since it requires a great deal of accuracy in setting up the tablesaw blade and fence for each cut.

Six cuts in all are required, three on each mating piece. As always, it is advisable to run a test cut on scrap stock of equal thickness after each new blade or fence setting. Also, make sure that the parts you are forming are of equal thickness.

For clarity in describing the opera-

tions, the two mating parts will be labeled A and B in Fig. 1A. To prepare for the first cut which is made on part A, set your tablesaw fence so that an outside blade tooth (a tooth away from the fence) aligns exactly flush with the outside edge of the stock (Fig. 2). Then adjust the blade height for a depth of cut which is $\frac{1}{3}$ the stock thickness. In most cases, working with stock about $\frac{3}{4}$ inch thickness, the blade height will be $\frac{1}{4}$ inch.

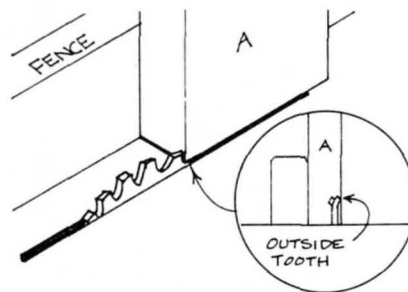


FIG. 2 SETTING FENCE FOR 1ST CUT

Use the miter gauge to hold part A, butt its squared end against the fence and make one pass over the blade (Fig. 3). Please note that the use of the

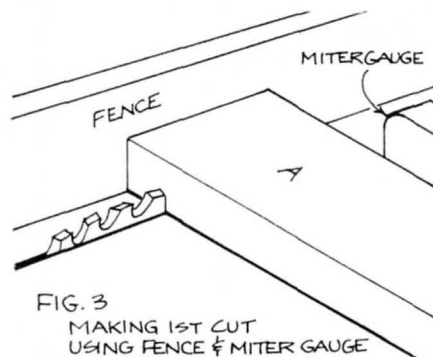


FIG. 3 MAKING 1ST CUT USING FENCE & MITER GAUGE

fence as a stop when crosscutting with the miter gauge is a dangerous procedure only when the blade cuts completely through the board. In this case we are cutting a narrow dado and there is no chance for a cut off piece to jam against the blade.

The second cut is made on part B and requires the installation of a dado blade set to cut a groove equal in width to one half the stock thickness. In the case of stock of $\frac{3}{4}$ " thickness, set the dado blades for a $\frac{3}{8}$ " wide cut. The blade should be raised until its height equals the full thickness of the stock. Use your test scrap as a gauge for set-

ting the blade height accurately (Fig. 4).

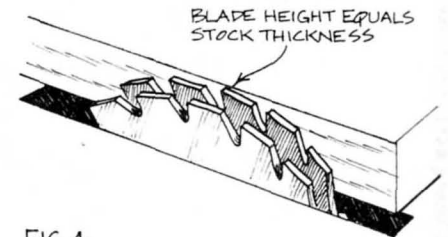


FIG. 4

DADO HEAD WIDTH EQUALS $\frac{1}{2}$ STOCK THICKNESS

A tenon jig is set up with the fence so that when part A is laid flat on the table and butted against the tenon jig, the outside of the dado blade is aligned with the first cut made in part A (Fig. 5A).

Part B is then clamped upright to the jig, face side in, and the jig is pushed along the fence running a grooving cut along the end grain of part B (Fig. 5B). This groove will be off center leaving two tongues, one thicker than the other.

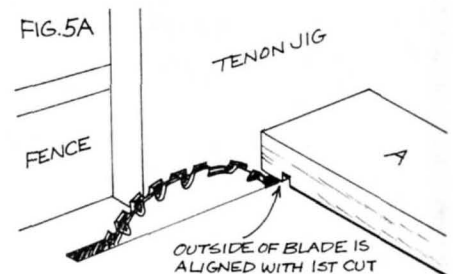


FIG. 5A

TENON JIG

FENCE

OUTSIDE OF BLADE IS ALIGNED WITH 1ST CUT

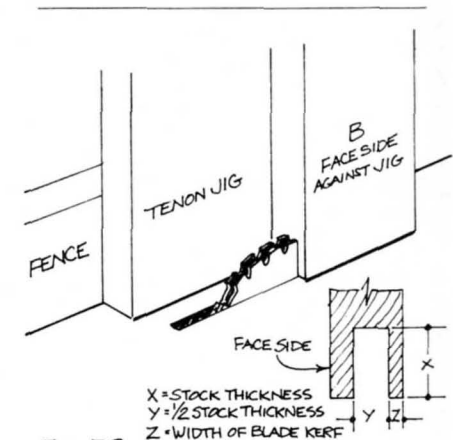


FIG. 5B

MAKING THE 2ND CUT

X = STOCK THICKNESS
Y = $\frac{1}{2}$ STOCK THICKNESS
Z = WIDTH OF BLADE KERF

Cut number three is made on part A and requires a switch back to the regular saw blade. The blade height is

(cont'd on next page)

I've found them.

The finest chisels in the world.



Mortimer Schwartz
Mortimer Schwartz, President
Fine Tool Shops Inc.



Some months ago, while visiting a small Japanese chisel factory, I watched a Master Cabinetmaker chiseling out dovetail waste. The cuts were so clean, and made so quickly, that I asked to see his chisel.

What struck me first was the handle. It was not only comfortable to hold, but easily the most beautiful I'd ever seen. The wood was Japanese red oak. Very dense. Magnificently grained.

Laminated Steel. Like a fine Japanese sword.

The Master pointed to the blade. The cutting edge, he said, had a sharpness not possible in ordinary chisels. (Later, I learned that it tested at Rockwell 66C).

He explained that the blade was made from two different steels. The soft one absorbed the shock from the mallet blows. This, he said, was why very hard alloy steel was practical for the cutting edge. I could actually see the two steels on the bevel.

The back of the blade was hollow ground. What a great idea! Not only does it reduce friction when making deep cuts, but also it is much easier to lap the back of the chisel since only the rim is being lapped rather than the entire blade.

Made by hand to last a lifetime.

I was also impressed with the apparent

socket design, such as you find on framing chisels. What I was really seeing, the master pointed out, was a combination tang-socket design. The blade is hand-forged with a tang. A heavy, socket ferrule is fitted over the tang for extra strength. And heavy steel hoops were fitted to the handle end to withstand the sharpest blows.

A choice of splendid handles.

The Master showed me other chisels with handles made of Rosewood. They're more expensive by about half. Next, he produced even more precious handles of Macassar Ebony and of Sharkskin fitted over oak. I brought all of these home along with other Japanese tools, each superb in its way. You can see them all in our free 12 page Japanese catalog.

Available in sets. Blade widths range from 3mm to 36mm (1/8" to 1-1/2"). The overall length of the tools is 9"; blade lengths are 2-1/4".

Set of 4: 6, 12, 18, 24mm (1/4, 1/2, 3/4, 1") \$49.95

Set of 6: 6, 9, 12, 15, 18, 24mm (1/4, 3/8, 1/2, 5/8, 3/4, 1") \$64.95

Set of 10: 3, 6, 9, 12, 15, 18, 21, 24, 30, 36mm (1/8 to 1-1/2") \$119.95

Call us. You can order with your charge card by using our toll free number.

CALL TOLL FREE 24 HOURS - 7 DAYS 800-243-1037
(In Connecticut 203-797-0772)

the
**Fine
Tool
Shops**
INC.

20 Backus Ave.
Danbury, CT 06810
Dept. W3

**FREE \$5.00 CATALOG
WITH ORDER**

Yes, please send me a set of 10 , 6 , 4 Japanese oak handled chisels. If I'm not perfectly satisfied, I understand I can get a complete refund by returning my order within thirty days.

Check or money order enclosed. (Include \$3.00 for Shipping and Handling.) *
Charge my VISA AMEX MasterCard Diners.

Signature _____

Account No. _____ Exp. Date _____

No, I'm not ordering. But please send me your free Japanese Tool Catalog, or, your 132 page full color Fine Tool Catalog for which I enclose, (charge or check), \$5.00 to be refunded with my first order.

Name _____

Address _____

City _____ State _____ Zip _____

*Connecticut residents include sales tax.

Beginning Woodworker (cont'd)

set by aligning the top of the blade with the inside edge of the thicker tongue of piece B laid face side up (Fig. 6). An auxiliary fence, which can be nothing more than a piece of scrap

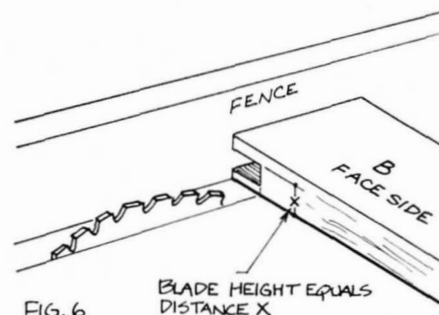


FIG. 6
SETTING BLADE HEIGHT FOR 3RD CUT

1 x 2 pine, is clamped to the regular fence so its bottom edge just clears the top of the blade. This auxiliary fence prevents the small piece being cut from jamming between blade and fence.

Mark piece A for the cut by standing the mating part on it and scribing

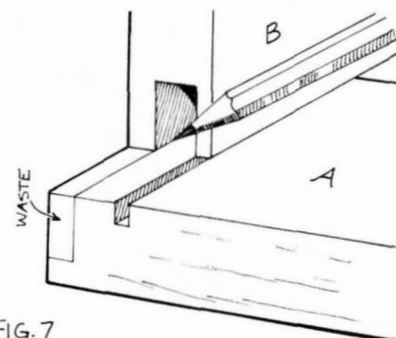


FIG. 7
SCRIBING PART A
FOR 3RD CUT

along the thick tongue thus marking where the rabbet cut will be made (Fig. 7). Adjust the fence so when part A is butted against it (held with the miter gauge), the blade will cut along the scribed line (Fig. 8). The thin piece of wood remaining at the end can be broken off by hand to form the rabbet. It doesn't matter if it doesn't break off cleanly as the final miter cut will clean it up.

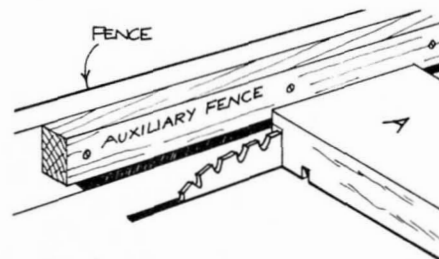


FIG. 8
MAKING 3RD CUT USING
AUXILIARY FENCE

The fourth cut on part B consists of trimming the thin tongue to a length

that equals the depth of the corresponding dado in part A. Again use the raised auxiliary fence to prevent the small cut-off from jamming between fence and blade and use the miter gauge for holding the workpiece (Fig. 9). Blade height for this cut can remain unchanged from the previous cut.

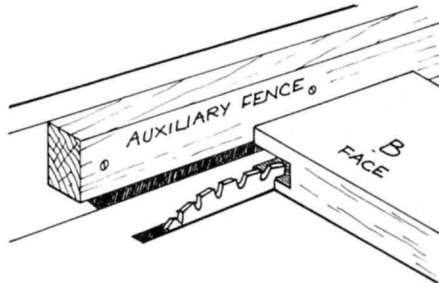


FIG. 9
MAKING 4TH CUT BY TRIMMING THIN TONGUE

The final two cuts require tilting the blade to 45 degrees. Cut number five on part B is done as shown in Fig. 10.

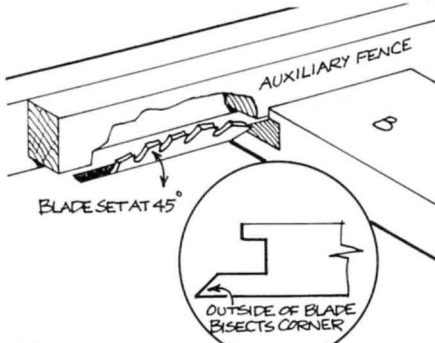


FIG. 10
MAKING 5TH CUT TO MITER TONGUE OF PART B

The auxiliary fence clears the blade but acts as a stop for the thin tongue to butt against when the cut must be duplicated on additional parts. Note that the outside of the blade bisects the corner of the thick tongue. Blade height is not critical so long as it clears the small tongue.

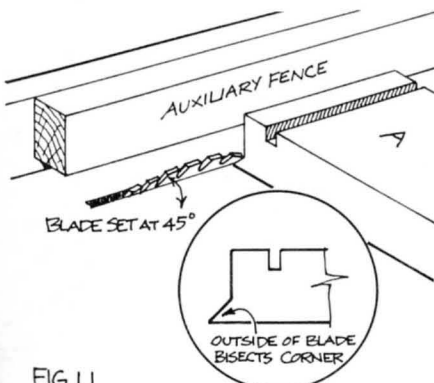


FIG. 11
MAKING 6TH CUT TO MITER PART A. BLADE HGT. REACHES ROOT OF 3RD CUT

(cont'd on next page)

AMERICA'S 7 BEST POWER TOOL BUYS

1 **8" TILT ARBOR SAW**
8" tilt arbor saw crosscuts, rips, mitres, cuts compound angles, dados, coves, moldings. Less blade, motor. Rip fence for easy alignment \$6.50 add'l. Ball bearing model \$12.50 add'l. Takes 1/3 h.p. motor or larger, standard blades, attachments **\$52.50**
22 lbs. f.o.b. factory

2 Changes from horizontal to vertical in seconds
BELT SANDER
Precision heavy duty sander includes a 4" x 36" sanding belt. Uses 1/3 h.p. or larger motor. V-pulley drive and multi-purpose drive spindle. Disc sander accessory, \$17.00 add'l. Mitre gauge, \$3.50 add'l. 18 lbs. f.o.b. factory **\$52.00**

3 12" swing industrial size 3 speed pulley
4 FOOT WOOD LATHE
Does the job of \$150 unit. Tubular steel bed rails, screw action tail stock. Use any size motor. 4" face plate. \$4.50 30 lbs. f.o.b. factory **\$67.75**
DELUXE HEAVY DUTY LATHE
Double shielded, lubricated for life ball bearings. 30 lbs. f.o.b. factory **\$79.50**

4 **LONG BED WOOD LATHE**
55" version of the deluxe heavy duty lathe, has ball bearing live center in tail stock and extra heavy bed tubes. 40 lbs. f.o.b. factory **\$94.00**
HIGH SPEED TURNING CHISELS Set of 3 \$11.00 Set of 8, \$29.00

5 **JOINTER-PLANER**
4" x 22" Cast iron and steel, precision ground adjustable tables. For planing joints, bevells. Cuts to 1/8" depth. Fence adjusts from 0° to 50°. Steel knives and dual guards. Use any motor. Precision ball bearing industrial model. \$15.70 add'l. 19 lbs. f.o.b. factory **\$63.30**

6 **32" RADIAL DRILL PRESS**
Precision 32" radial unit has standard features and many extras. Depth of throat up to 16". Head tilts and table stays level. Drills to center of a 32" circle. Cast iron and steel. Less motor, belt and pulley. 30 lbs. f.o.b. factory **\$89.90**

7 **WOOD SHAPER KIT**
Makes beads, coves, moldings, tongue-and-groove joints. Accurate at high speeds. Sealed and greased for life ball bearings. Less wood. Takes 1/4 h.p. motor or larger, standard cutters. Opt'l., hold down assem., \$4.50 add'l. 6 lbs. f.o.b. factory. **\$39.90**

These power tools have no chrome, embossed nameplates or any other useless extras... but they do the same job as tools costing 2 to 3 times the price! And their performance has been proven in the shops of literally millions of professionals and serious amateurs.

Don't be misled by AMT's low prices; these are quality tools. They are full scale, full speed and offer top performance and precision. There are good reasons why we are able to offer such values. Here is how we do it:

Engineered for simplicity: After years of engineering refinements, virtually all the frills have been eliminated in order to save you money. **Faster machining:** Specially designed automatic machining equipment cuts costs by cutting production time. **Standard parts:** Ordinary hardware items replace custom parts for enormous savings.

Volume: Our own foundry, our huge mass production facilities and our large buying power—all keep costs down. **Direct factory purchase:** You pocket the savings but we still offer our two terrific guarantees!

POWER SAW: Our tilt arbor saw comes completely assembled with ground cast iron table, safety guard, splitter and mitre gauge.

In addition you get a free set of cabinet base plans that show you how, with one sheet of 3/4" plywood, you can convert this saw into a floor model with a big 27" x 24" top. Cabinet rip fence only \$7.50 additional. And you can use your new saw to cut out the cabinet base!



BRAND NEW ELECTRIC MOTOR
Develops a full 1 h.p., 17 lbs. f.o.b. factory. (purchased separately \$54.55/\$49.50)

AMT OFFERS TWO GUARANTEES:

OUR 10-DAY MONEY BACK GUARANTEE
Try any of these power tools and compare it with any similar machine at any price. If not satisfied return it for prompt no questions asked refund! We pay the return shipping charges.

10-YEAR FULL SERVICE GUARANTEE
Any part or parts of these AMT power tools (except motor which carries a one year guarantee) which becomes inoperative for any reason within 10 years after purchase date will be repaired or replaced by the factory with no charge to the purchaser other than postage.

AMERICAN MACHINE & TOOL CO., 4TH AND SPRING STS., ROYERSFORD, PENNSYLVANIA 19468

BUY DIRECT . . . USE THIS HANDY ORDER COUPON TODAY

AMT American Machine & Tool Co., Dept. WJ91, Fourth & Spring Sts., Royersford, Pa. 19468
Please send me the units checked. Payment in full enclosed \$_____ or \$5 deposit each item enclosed, balance C.O.D. I must be fully satisfied or will return unit within 10 days for full refund. No questions asked.

1 <input type="checkbox"/> 8" tilt arbor saw, \$52.50 <input type="checkbox"/> Standard rip fence, \$6.50 <input type="checkbox"/> Long cabinet rip fence, \$7.50 <input type="checkbox"/> Ball bearing spindle, \$12.50	4 <input type="checkbox"/> Long bed wood lathe, \$94.00 <input type="checkbox"/> Face plate, \$4.50	7 <input type="checkbox"/> Wood shaper kit, \$39.90 <input type="checkbox"/> Optional hold down kit, \$4.50
2 <input type="checkbox"/> Belt sander, \$52.00 <input type="checkbox"/> Disc sander attachment, \$17.00 <input type="checkbox"/> Mitre gauge for sander, \$3.50	<input type="checkbox"/> Turning chisels for any lathe <input type="checkbox"/> Set of 3, \$11.00 <input type="checkbox"/> Set of 8, \$29.00	General Electric Motors <input type="checkbox"/> \$49.50 (with other item) <input type="checkbox"/> \$54.55 (purchased separately)
3 <input type="checkbox"/> 12" swing, 4' lathe, \$67.75 <input type="checkbox"/> Deluxe ball bearing lathe, \$79.50 <input type="checkbox"/> Face plate, \$4.50	5 <input type="checkbox"/> Jointer-planer, \$63.30 <input type="checkbox"/> Ball bearing spindle, \$15.70	Visit our Royersford factory show-room for these same low prices. 4th and Spring Sts. From 9 to 4:30 on weekdays and 9 to 12 on Sat.
6 <input type="checkbox"/> 32" radial drill press with tilting head, \$89.90		

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

Beginning Woodworker (cont'd)

outside of the blade just bisects the corner of the part and the blade height is set to just reach the corner of the first cut made (Fig. 14). Do not use the fence as a stop for this cut.

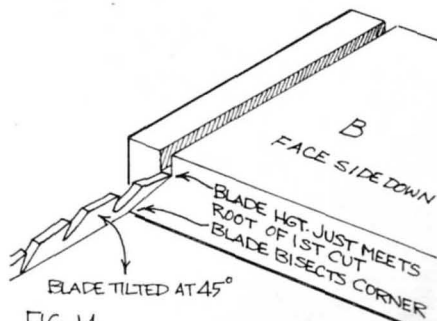
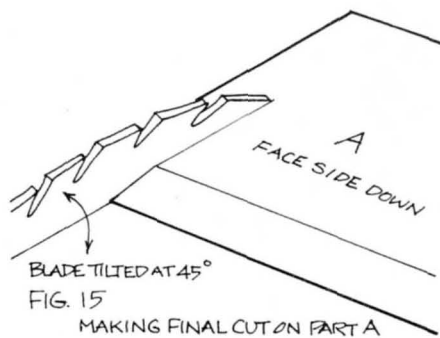
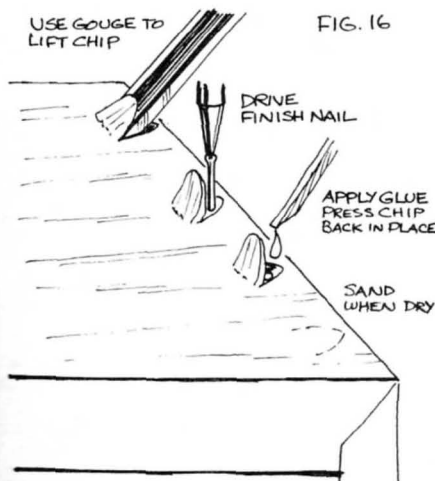


FIG. 14
MAKING 2ND CUT ON PART B

The final cut is made on the thin part and is just a simple miter cut using only the miter gauge as shown in Fig. 15. Obviously, this joint depends on the glue alone for strength which lim-



its its use to relatively small cases. In solid stock it can be reinforced with a few finishing nails which can be cleverly concealed by using a small gouge to raise a chip of wood following the grain. The nails are driven in with a nail set and the chips are glued back in place (Fig. 16). If done with care, this method is very effective in concealing nail heads.



Remember Remember



The Woodworker's Journal

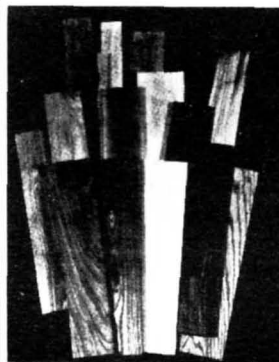
does pay for contributions from readers.

We are interested in original plans for furniture (all styles), toys, clocks, jigs and furniture accessories. Submissions must include dimensioned sketches, written instructions and high quality black & white photos. We re-draw all sketches so they need only be clear and complete.

Send to The Woodworker's Journal, Attention: Editor, P.O. Box 1629, 25 Town View Drive, New Milford, CT 06776.

CROY-MARIETTA HARDWOODS, INC.

Top quality hardwoods and hardwood products — at prices that can't be topped!



We are a direct producer. No middle men. You receive the advantage of buying directly from the producer.

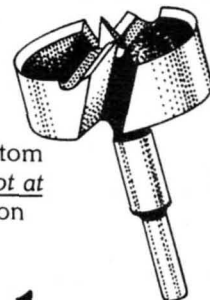
See for yourself. Send \$1 for our Full-Color Brochure and Price List. (Dollar is refunded with your first order.)

VISA and MASTERCARD accepted

P.O. BOX 643 • 121 PIKE ST. MARIETTA, OHIO 45750
1-614-373-1013

A-2
Name _____
Address _____
City _____ State _____ Zip _____

PRICE BREAKTHROUGH on FORSTNER BITS



Forstner bits...those wonderful bits that drill a clean flat-bottom hole. You've been reading about them everywhere...but not at these prices! These are the finest from Austria. Tough carbon tool steel, all bits are 3 1/2" long.

TO ORDER BY PHONE CALL:
TOLL FREE (800) 628-7746
MASS. RESIDENTS: (413) 625-2281

The Toolroom

Yes Dave Wood, please send me:

HOW MANY	DESCRIPTION	PRICE EACH	TOTAL PRICE
	6 pc. set - 3/8", 1/2", 5/8", 3/4", 7/8", 1"	@ \$49	
	4 pc. set - 1 1/8", 1 1/4", 1 3/8", 1 1/2"	@ \$58	
	4 pc. set - 1 5/8", 1 3/4", 1 7/8", 2"	@ \$89	
	14 pc. set - one of each of the above (save \$36 on 14 pc. set)	@ \$160	

Shipping, Handling and Insurance \$1.75

Mass. Residents Add 5% Tax

TOTAL COST

Payment By
 Check Enclosed VISA MASTERCARD
card # _____ Good thru _____

Name _____ Address _____
City _____ State _____ Zip _____

Enclosed is my order. As my bonus, send me your 1982 catalog of Fine Tools and all new catalog for the next two years FREE!
 Enclosed is \$1. Please send me your 1982 catalog of Fine Tools and all new catalogs for the next two years. (Your \$1 refunded with your first order.)

The Toolroom East Oxbow Road, #981WJ, Shelburne Falls, Massachusetts 01370

18th Cent. Rudder Table

Space was at a premium in most early American homes, which perhaps explains why tables like this were so popular during that period. With the leaves folded down (see page 3) the table took up little room when not in use. We think that feature was a good one, and that it can still be enjoyed today - especially for anyone with a small house or apartment.

Ours is made from #2 common pine. The construction techniques are fairly straight-forward and should not present any unusual difficulty.

Make the two sides (A) first. Standard 1 x 12 stock will provide enough width, or if necessary you can edge-join narrower stock. Cut to the length and width shown in the Bill of Materials, then lay out the location of the $\frac{3}{8}$ " thick x 2" wide x 1" long double tenons.

To make the tenons, equip the table saw with a dado head cutter and set it for a $\frac{3}{16}$ " depth of cut. With the stock held securely against the miter gauge, make a $\frac{3}{16}$ " x 1" rabbet cut on one end. Turn the stock over and repeat the cut. If you don't have a dado head, you can accomplish the same cut making repeated passes with a regular table saw blade. Since the stock is 2 feet long, you'll have a lot more control if you attach about an 18" length of scrap stock to the miter gauge. Make sure the scrap stock is straight. Now use a back saw to establish the 2" tenon width, then remove the remaining material with a sharp chisel.

The dado head cutter can also be used to cut the $\frac{3}{8}$ " x 2" notch for part C and the $\frac{3}{8}$ " x 6" notch for part D. Next, the $3\frac{1}{2}$ " high x 6" wide drawer opening can be located and marked on the stock. Drill one or two starting holes, then cut out with a saber saw. Note the drawer opening is located $1\frac{1}{4}$ " from the top and $1\frac{1}{16}$ " from each side. Now transfer the grid pattern from the drawing and cut the profile to shape with the saber saw.

Cut the feet (B) to length and width, then lay out the location of the $\frac{3}{8}$ " x 2" x 1" mortises. It's a good idea to make the mortise a little deeper than 1" to allow for any excess glue. Use a $\frac{3}{8}$ " dia. drill bit to remove most of the stock, then use a chisel to square the corners and clean up waste stock. Transfer the grid pattern and cut to shape with the saber saw.

The stretchers (C) and aprons (D) can now be cut to length and width. Size the width for a good fit in the side (A) notches. The $\frac{3}{8}$ " x $\frac{3}{4}$ " rabbets can be cut with the dado head on the table saw. Note that the stretcher (C) has a $\frac{3}{8}$ " dia. x $\frac{1}{2}$ " deep hole drilled to take the rudder (part E) tenon. Locate the hole halfway ($14\frac{3}{8}$ ") across the length and right in the center of the $\frac{3}{4}$ " thickness.



Cut the rudder (E) to length and width. A $\frac{3}{8}$ " dia. x $\frac{3}{4}$ " deep hole is drilled at a point $\frac{3}{8}$ " in from the side edge. Two holes are required, one at the top and one at the bottom. These holes must be located exactly in the center of the $\frac{3}{4}$ " thickness in order for the rudder to operate properly. Now, transfer the grid pattern and cut to shape. Note that the rudder also has a slight notch with rounded corners. This is to insure that the rudder will clear the apron (D).

The top (H) can be made from standard 1" x 12" stock which measures $11\frac{1}{4}$ " wide. Select stock that's flat and free of large knots or other imperfections. The $\frac{3}{8}$ " dia. x $\frac{1}{2}$ " deep hole for the rudder tenon is drilled on the underside of H. Locate the hole halfway across the length and $\frac{1}{2}$ " in from the edge. If you think the drill bit point might break through the other side, make the hole just $\frac{3}{8}$ " deep and shorten the rudder tenon to fit. The leaves (I) can also be made from standard 1" x 12" stock. Cut these parts slightly longer than necessary, then butt together and scribe a $33\frac{3}{4}$ " dia. circle. Cut out with the saber saw.

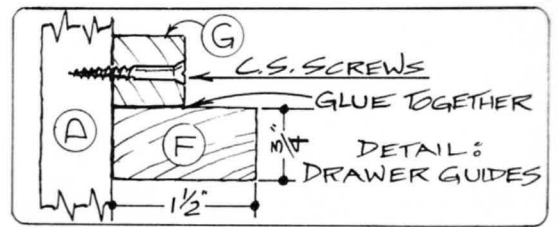
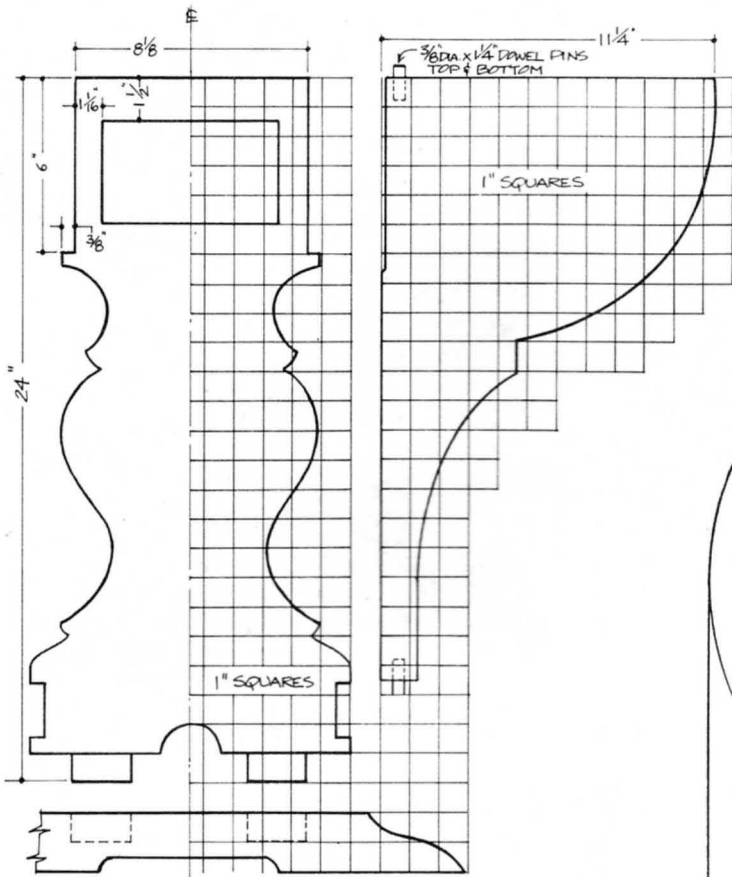
Before assembly, give all parts a complete sanding. Take extra care with the curved edges so they look clean and smooth. Cut $\frac{3}{8}$ " dia. x $1\frac{1}{4}$ " long dowel stock and glue in place for the rudder tenons. Assemble parts A and B using glue and clamps. When dry, parts C and D can be joined to the legs, again using glue and clamps.

Parts F and G can then be cut, sanded, and glued together (see Detail), then joined to fit the apron (D).

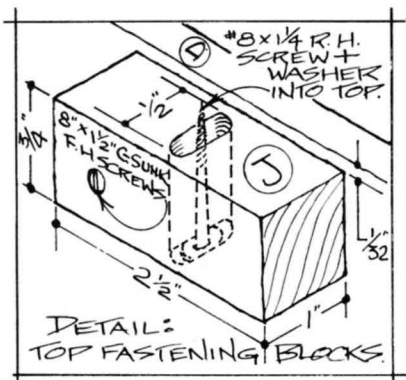
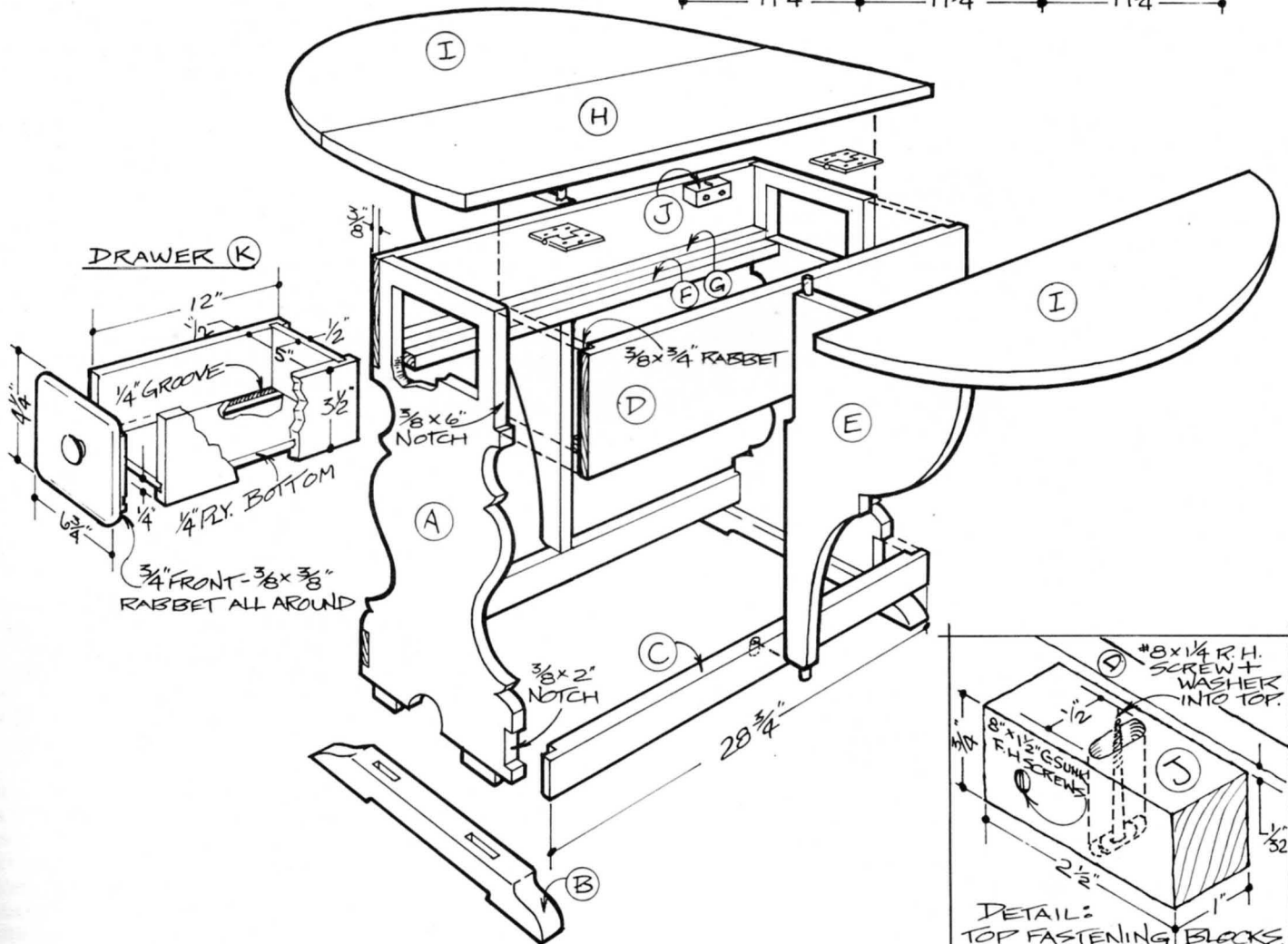
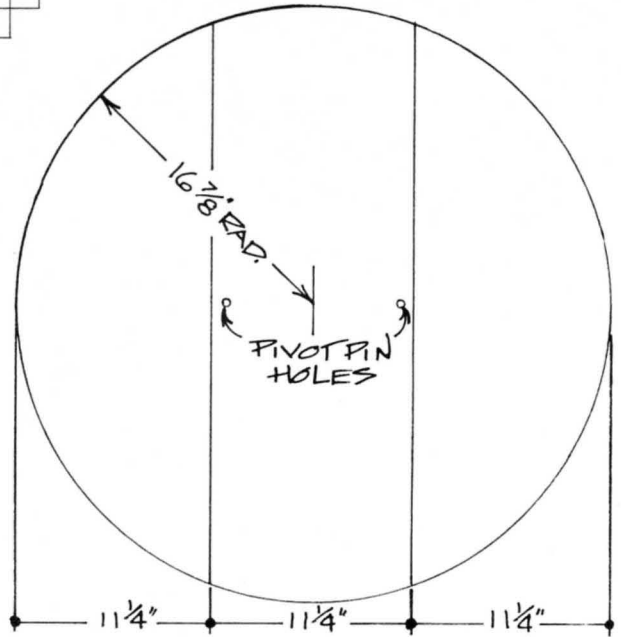
Attach the four hinges, then assemble the top to the base using the four fastening blocks (see Detail part J). Changes in moisture content will cause the top to change in width, therefore the blocks require elongated holes which allow free movement of the top. If this free movement is not permitted, stresses will build that could cause the top to crack. When installing, it's not necessary to overtighten the screw - just enough so the top contacts part D. The two drawers (K) are made as shown.

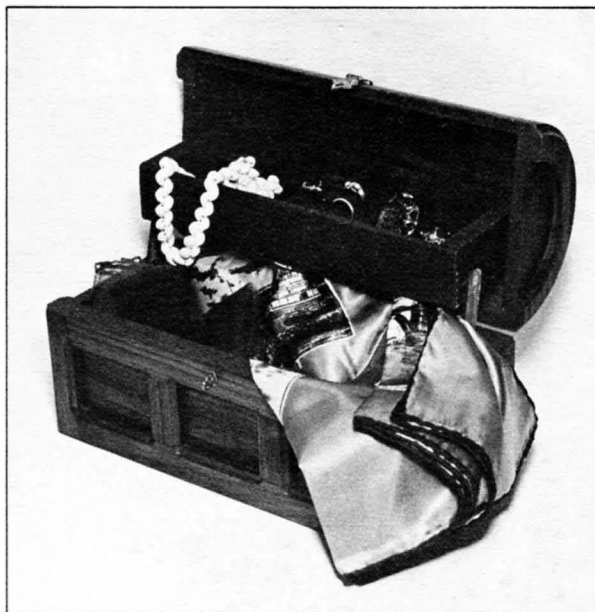
Our table was finished with two coats of Deft Pumpkin wood stain followed by two coats of Deftco (Deft) Danish Oil finish.

Bill of Materials (All Dimensions Actual)		
Part	Size	No. Req'd
A	$\frac{3}{4}$ x 11 x 24 (inc. tenons)	2
B	$1\frac{1}{2}$ x 2 x 19	2
C	$\frac{3}{4}$ x 2 x $28\frac{3}{4}$	2
D	$\frac{3}{4}$ x 6 x $28\frac{3}{4}$	2
E	$\frac{3}{4}$ x $11\frac{1}{2}$ x $20\frac{1}{2}$	2
F	$\frac{3}{4}$ x $1\frac{1}{2}$ x $27\frac{1}{4}$	2
G	$\frac{3}{4}$ x $\frac{3}{4}$ x $27\frac{1}{4}$	2
H	$\frac{3}{4}$ x $11\frac{1}{4}$ x $33\frac{3}{4}$	1
I	$\frac{3}{4}$ x $11\frac{1}{4}$ x $33\frac{3}{4}$	2
J	$\frac{3}{4}$ x 1 x $2\frac{1}{2}$	1
K	See Drawing	1



PLAN OF TOP





by Sam Allen

Musical Jewelry Box

Laminating curved shapes is an interesting aspect of woodworking. It can make seemingly impossible projects easy. This jewelry box is an example. The lid would be difficult to produce without using laminating techniques. If you haven't tried laminating before, this is a good starter project because the laminating form is simple to build and the project is small enough that ordinary clamps can be used to exert pressure on the form. Using the form, a number of sheets of veneer are glued together and clamped to the desired curve. When the glue dries, the laminated sheets will remain nicely curved. There are several ways to construct a laminating form. One way is to glue up several pieces of thick pine to make a block $4\frac{1}{2}$ " x 8" x 12" (Fig. 1). Lay out the $2\frac{3}{4}$ " and 3" radii on the end of the block and cut on the smaller radius with a band saw. On the female half of the form make a second cut along the 3" radius line. The $\frac{1}{4}$ " of waste allows for the thickness of the veneers that make up the lid.

Cutting this block requires a band saw with a large depth of cut capacity. If you do not have access to such a machine, another method is to turn a $5\frac{1}{2}$ " dia. x $11\frac{1}{4}$ " cylinder on the lathe using a block of glued-up pine. This will be the form over which the veneer will be bent. A section of 6" dia. galvanized stove pipe is cut to $17\frac{1}{2}$ " wide x $12\frac{1}{2}$ " long and fitted with clamping cleats secured with screws and washers (Fig. 2). The second photo shows how this flexible steel is bent around the form, pressure being applied with C-clamps.

If you can't buy veneers locally, they are available by mail from Albert Constantine and Son, 2050 Eastchester Rd., Bronx, NY 10401. Veneers can range in thickness from $\frac{1}{40}$ " to $\frac{1}{28}$ ". The lid lamination is $\frac{1}{4}$ " thick and consists of an outer walnut veneer with decorative inlay, a core of cheaper veneers and an inner veneer, also of walnut. The core consists of any grade B veneer. Poplar crossbanding is excellent for the core as it is low in cost, flexible, and comes in sheets 12" wide. The number of laminates in the lid will vary depending on the thickness of the veneers you obtain but you should try for a final thickness of $\frac{1}{4}$ inch.

The outside or face veneer which is inlaid, is applied later, after the core veneers and inside face have been lami-

nated. Cut the pieces of veneer to 10" wide x $12\frac{1}{4}$ " long, a bit larger than finish size of the lid to allow for trimming later. Use liquid hide glue, the type that comes ready-to-use in a bottle, which allows for longer setup. Apply it evenly to both surfaces of each laminate. A 2" paint roller is an easy way to spread the glue evenly.

Whichever type of form you use, be sure to cover both surfaces with wax paper to prevent the veneer from sticking to the form. Use a piece of scrap veneer the same thickness as the face veneer to act as a spacer to compensate for the face veneer to be added later. Clamp the two halves of the wood form together with large handscrews, or if you use the wood plug and stove pipe form, clamp together with C-clamps. After the glue is dry, remove the lid from the form and cut its ends square and trim to finish size.

Next, the ends of the lid (C) are cut on the bandsaw for a good fit in the lamination. The ends are then used as templates to cut the curved $\frac{1}{4}$ " x 1" wide decorative strips (D) which are glued to the ends.

The ends are glued to the lid lamination by clamping in place either of the forms previously used. When dry, file and sand the tops of the ends until they are perfectly flush with the lid. Fill any voids that are present as any irregularities in the tops of the lid will telegraph through to the face veneer.

I used a commercially made inlay (Constantine #1W9) but you could make your own. The inlay I used comes in a piece of walnut veneer 8" x 12" which is a little too narrow to cover the entire lid so it's necessary to joint and tape a 2" wide strip of matching walnut veneer to the edge that will be near the backside of the lid. (*Editor's note: see The Woodworker's Journal, Vol. 5, No. 1, for details on joining veneers*).

Coat the top of the lid and the side of the inlaid sheet that doesn't have paper or tape on it with glue. Remove the veneer spacer from the form and place the inlay and lid into the wood mold. The male half of the mold will no longer fit because of the ends glued to the lid, so simply place a board across the ends to clamp the lid into the form. The alternate cylinder and sheet metal form can be used without modification for the final lamination though care will have to be

taken to make sure that the face veneer comes into good contact with the top of the curved trim pieces D. The face veneer could have been installed at the same time the lid was being laminated but by doing it in this sequence, the joints between the ends and the lid are completely hidden as shown in Detail A. After removing the completed lid from the form, scrape off the paper and tape that covers the inlay and jointed edges and sand the inlay smooth.

The box is constructed of $\frac{1}{4}$ " walnut as shown in Figs. 3 and 4. The box bottom and music box case are made of re-sawed aromatic red cedar. The easiest way to attach the decorative strips to the box front and back is to use the jig shown in Fig. 5. Lay the strips (F pieces are $\frac{3}{4}$ " wide, E pieces are 1" wide) face down on the jig so they butt together and apply yellow glue; then clamp a side (A) down on top of the jig. The removable rabbeted strips on the jig provide the proper spacing to form the corner joint. After the glue is dry, these strips must be unscrewed to release the assembly.

Assemble the box and add $\frac{1}{4}$ " x 1" wide decorative strips to the box ends so they cover the corner joints as shown in Detail B. Once all the decorative strips are on, use a router with a $\frac{3}{8}$ " cove bit and pilot to cove all the outside corners and around the outside curve of the lid. Set the depth so the cutter comes within $\frac{1}{16}$ " from the edge of the front strips F as shown in Detail B.

The inside edges of the frame are coved also but not as deeply as the outside corners. To do this it is necessary to grind $\frac{1}{8}$ " off the length of the pilot as shown in Detail A; otherwise the pilot will butt against the box ends preventing the cutter wings from contacting the wood. It would be wise to practice these cuts on scrap taking very light cuts.

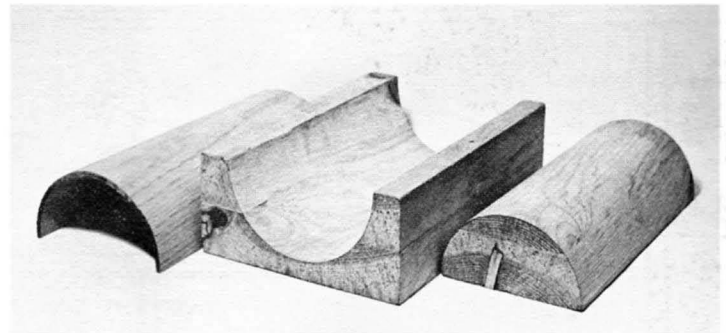
Low cost music box movements are available from either Constantine or Barap Specialties, 835 Bellows Ave., Frankfort, MI 49635 (catalog \$1.00). The exact mounting position may vary according to the type of movement you buy. The winding key is recessed in the box bottom by boring a $1\frac{1}{2}$ " dia. hole part way through with a spade or auger bit. The movement comes with a trip wire that stops the air-vane governor on the movement. This wire is usually too short to reach the lid of the box and must be extended. Drill a $\frac{1}{16}$ " dia. hole in the box end as shown in Detail C. The hole position will depend on the location of the trip wire of your movement. Next drill a $\frac{3}{8}$ " dia. hole part way through the end to intersect with the $\frac{1}{16}$ " hole. Enlarge the top of the $\frac{1}{16}$ " hole to accept a ball point pen spring under slight compression. Now snake a piece of stiff wire through the hole, install the spring and bend a loop in the end of the wire to keep the spring in place. The other end of the wire is linked with the trip wire as shown.

The jewelry box tray is an optional feature and automatically lifts out of the box as the lid is raised. Two $\frac{3}{16}$ " thick walnut arms make this possible. They are recessed into the side of the tray and pivot on brass wood screws (see Figs. 6 and 7). A brass screw also connects the tray to the lid and allows the tray to pivot. Small felt washers are placed between the lid and tray to allow clearance and prevent damage to the finish.

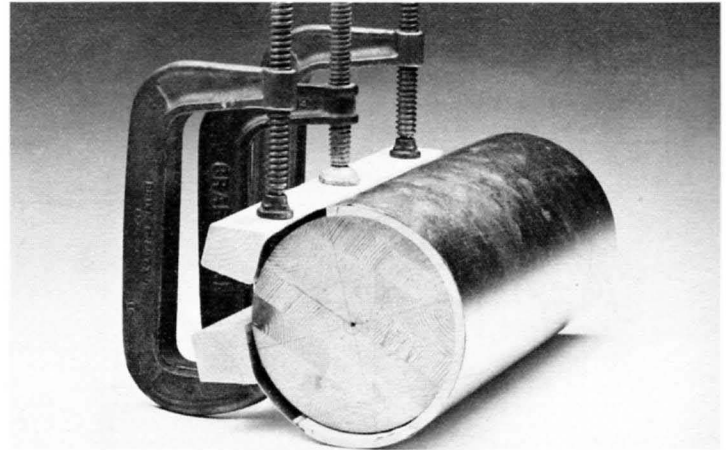
The placement of the pivot points must be exact or the tray will bind or not be level in its raised position. Measurements for the pivot points are given from the hinge edge of the box to eliminate any error that might occur because of variation in wood thickness. If you change any of the dimensions of the box, you will have to determine new pivot points by building a mock up of one side of the box from scrap.

The ring holder (M) in the center of the tray is just a slotted block. A $\frac{1}{8}$ " slot will fit most rings but you can make some of them larger for wider rings. Cover the block with felt, pushing the felt down into each slot. A bit of glue at the bottom of the slot will hold the felt in place. The entire tray can be covered with felt (except for the routed ends) or the wood can be left exposed.

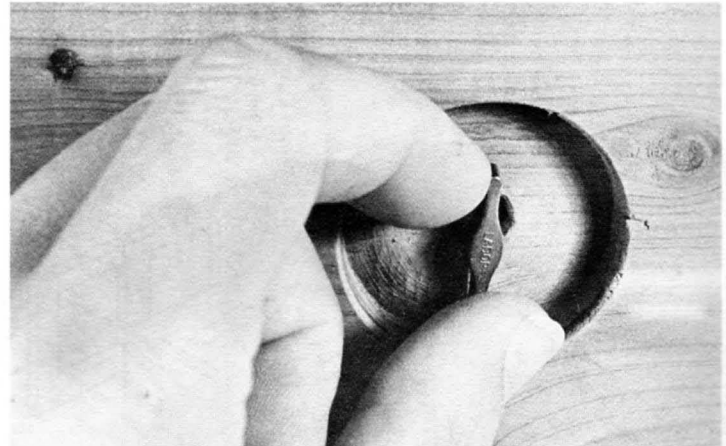
Any clear finish will work on this project. I used Danish Oil. Don't use stain as it will obscure the inlay. Mask the



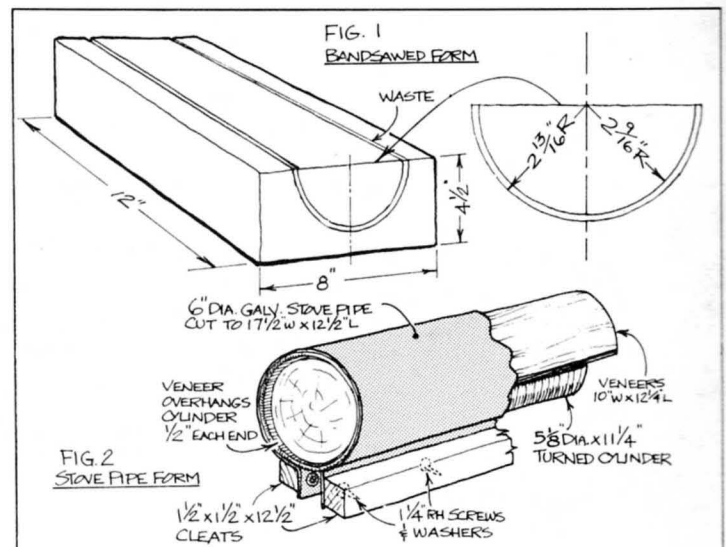
Left to right: completed lid lamination, female mold, male mold.



Alternate form makes use of stove pipe clamped around cylinder with glued veneer in between. Clamping cleats are screwed to stove pipe.



The music box winding key is recessed into box bottom.



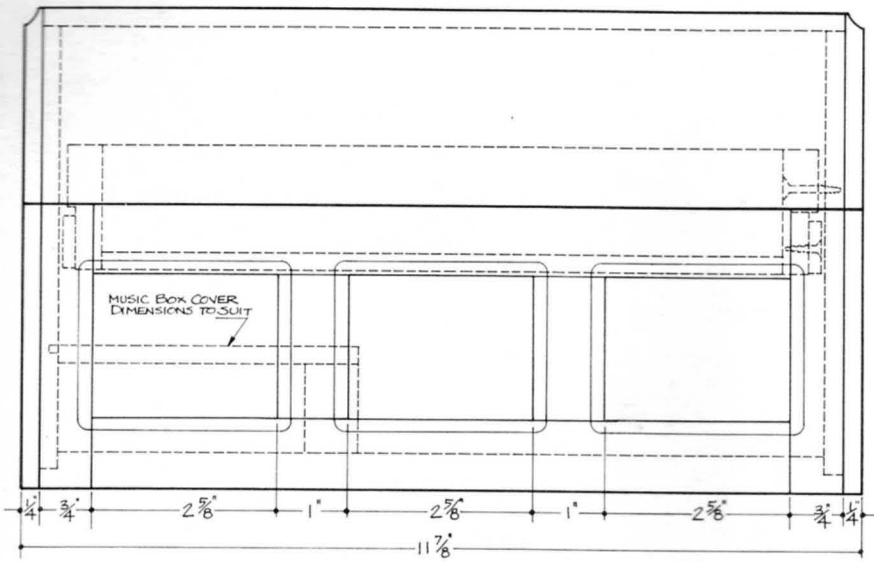


FIG. 3

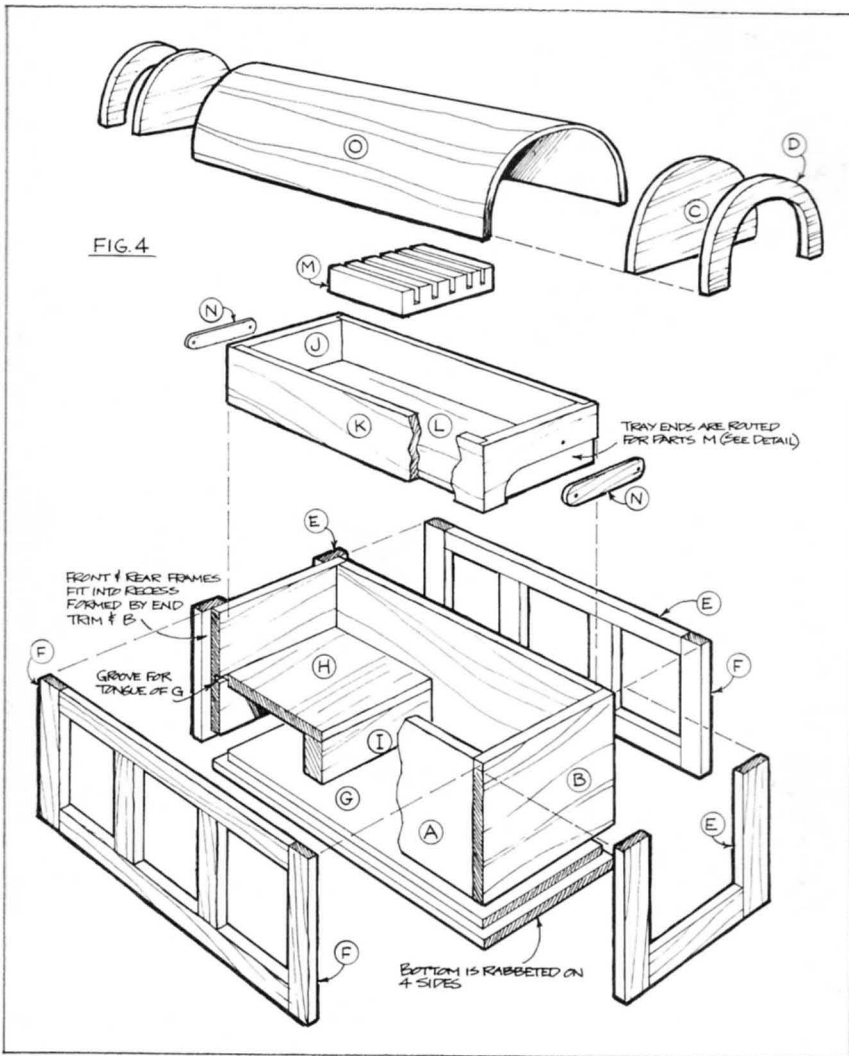
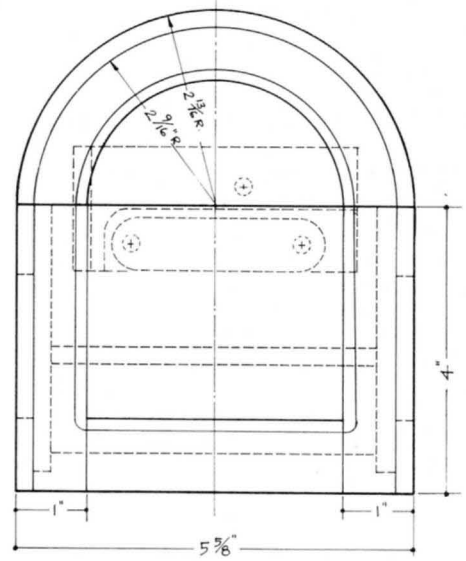
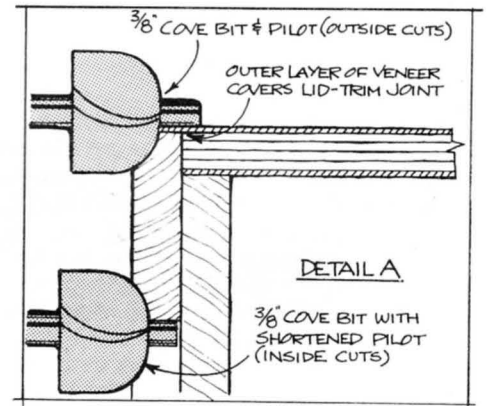
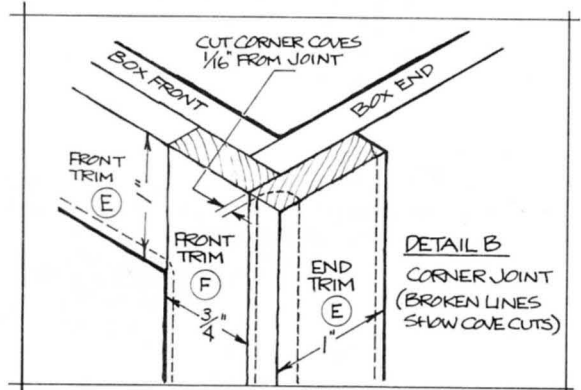


FIG. 4



DETAIL A



DETAIL B
CORNER JOINT
(BROKEN LINES SHOW COVE CUTS)

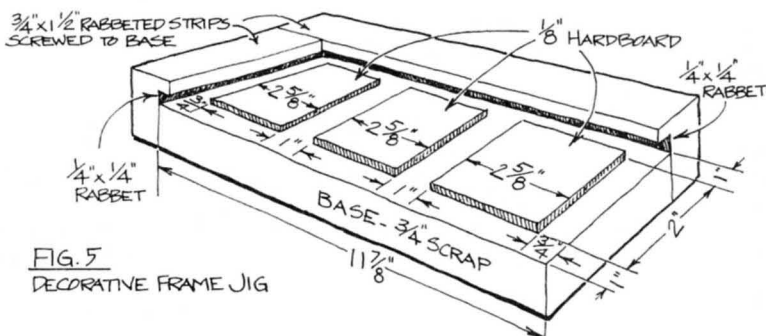
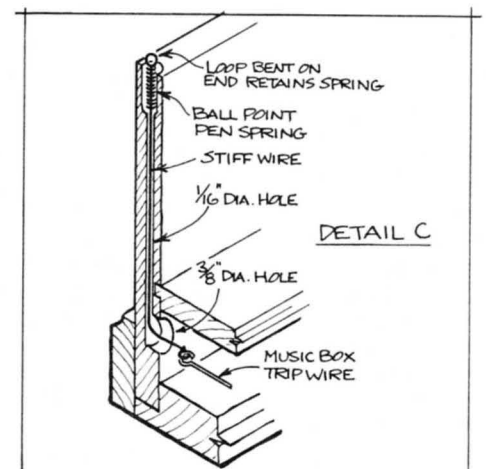


FIG. 5
DECORATIVE FRAME JIG



DETAIL C

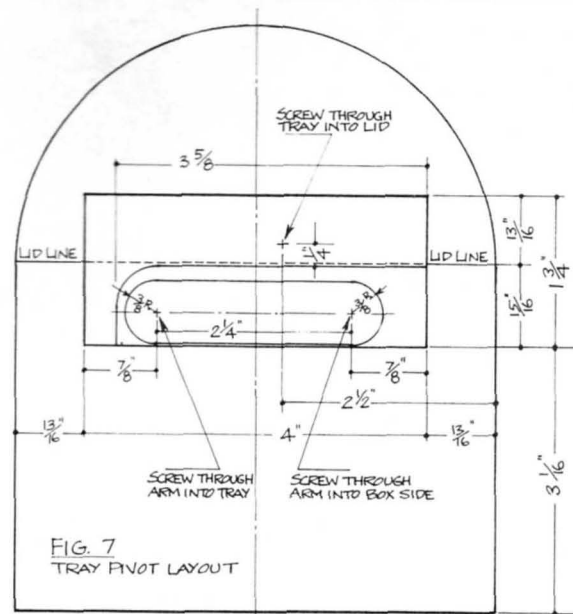
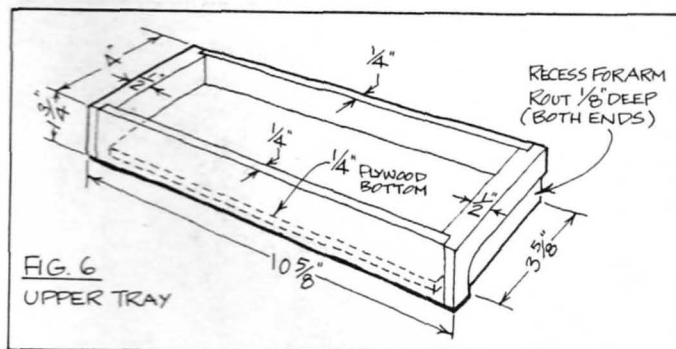
Musical Jewelry Box Cont'd

cedar bottom and any area to be covered with felt and leave them unfinished. Cover mating edges of the box and lid with felt. This gives a nice finished look, makes the lid close quietly and hides the joints. Also, cover the bottom of the box with felt to protect the finish of the surface the box will sit on.

The felt is applied with white glue spread very thin. If the glue is too heavy it will soak through the felt and ruin its appearance. Cut the felt larger than needed and trim to size with a razor knife after the glue has dried.

Bill of Materials (All Dimensions Actual)

Part	Description	Size	No. Req'd
A	Front & Back	$\frac{1}{4} \times 3\frac{3}{4} \times 11\frac{1}{4}$	2
B	Box Ends	$\frac{1}{4} \times 3\frac{3}{4} \times 4\frac{1}{4}$	2
C	Lid Ends	$\frac{1}{4} \times 3 \times 5\frac{1}{2}$	2
D	Lid Strip	$\frac{1}{4} \times 3\frac{3}{4} \times 6$	2
E & F	Stripping	$\frac{1}{4} \times 1$	As Req'd
G	Bottom	$\frac{1}{2} \times 5\frac{1}{2} \times 11\frac{1}{4}$	1
H	Cover	$\frac{1}{4} \times 4\frac{1}{4} \times$ (to fit)	1
I	End Block	$\frac{1}{2} \times 4\frac{1}{4} \times$ (to fit)	1
J	Tray Ends	$\frac{1}{2} \times 1\frac{3}{4} \times 4$	2
K	Tray Front & Back	$\frac{1}{4} \times 1\frac{1}{4} \times 9\frac{3}{4}$	2
L	Tray Bottom	$\frac{1}{8} \times 3\frac{3}{4} \times 9\frac{3}{4}$	1
M	Ring Holder	$\frac{3}{4} \times 3 \times 3\frac{1}{2}$	1
N	Tray Arms	$\frac{3}{16} \times \frac{3}{4} \times 3$	2
O	Lid Laminations	Veneer	As req'd



Colonial Candlestick

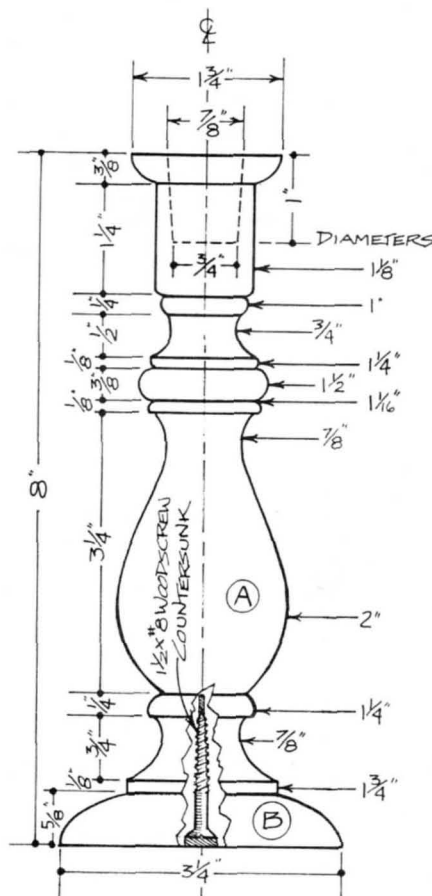
An attractive pair of wooden candlesticks always makes a nice gift item. Colonial homes depended on them for precious table light, especially on cold winter evenings. While not the necessity they once were, we still enjoy them today for the warmth and charm they add to the family dining table. We made ours from maple (stained), but birch, walnut, and cherry can also be used.

To minimize waste, the candlestick is made in two parts. Part A is a spindle turning and part B is a faceplate turning.

Make part A from a 2" square turning block. Start with a length of about 9". Rough out the stock to a 2" diameter cylinder, then cut to the profile shown. Thoroughly sand all surfaces before removing from the lathe. The top should be slightly dished-in to collect candle drippings. To make the tapered candle hole, grind or file the edges of a $\frac{1}{8}$ " spade bit so that it tapers to $\frac{3}{4}$ " at the end. Use this bit to drill a 1" deep hole.

After faceplate turning, part B can be joined to part A with a $1\frac{1}{2} \times \#8$ woodscrew, countersunk $\frac{1}{4}$ ". Final sand all surfaces, then stain if desired. We used a walnut stain on our maple set. Two coats of Watco Danish Oil completes the project.

The Gift Shop





Deacon's Wall Shelf

Resembling an old-fashioned Deacon's bench, this attractive wall unit will add a bit of charm to most any room.

Begin by cutting the sides (A) to length and width. Lay out and mark the location of the $\frac{1}{4}$ " deep dado and lower rabbet, then make the cut with a dado head cutter, or make repeated passes using the table or radial arm saw. Cut the rabbet and dado slightly narrower than the mating parts (E & F). Then, when parts E and F are sanded, the fit will be just right. The back notches can be cut using the same method. Next, using the grid pattern shown, lay out, mark, and cut the curved profile.

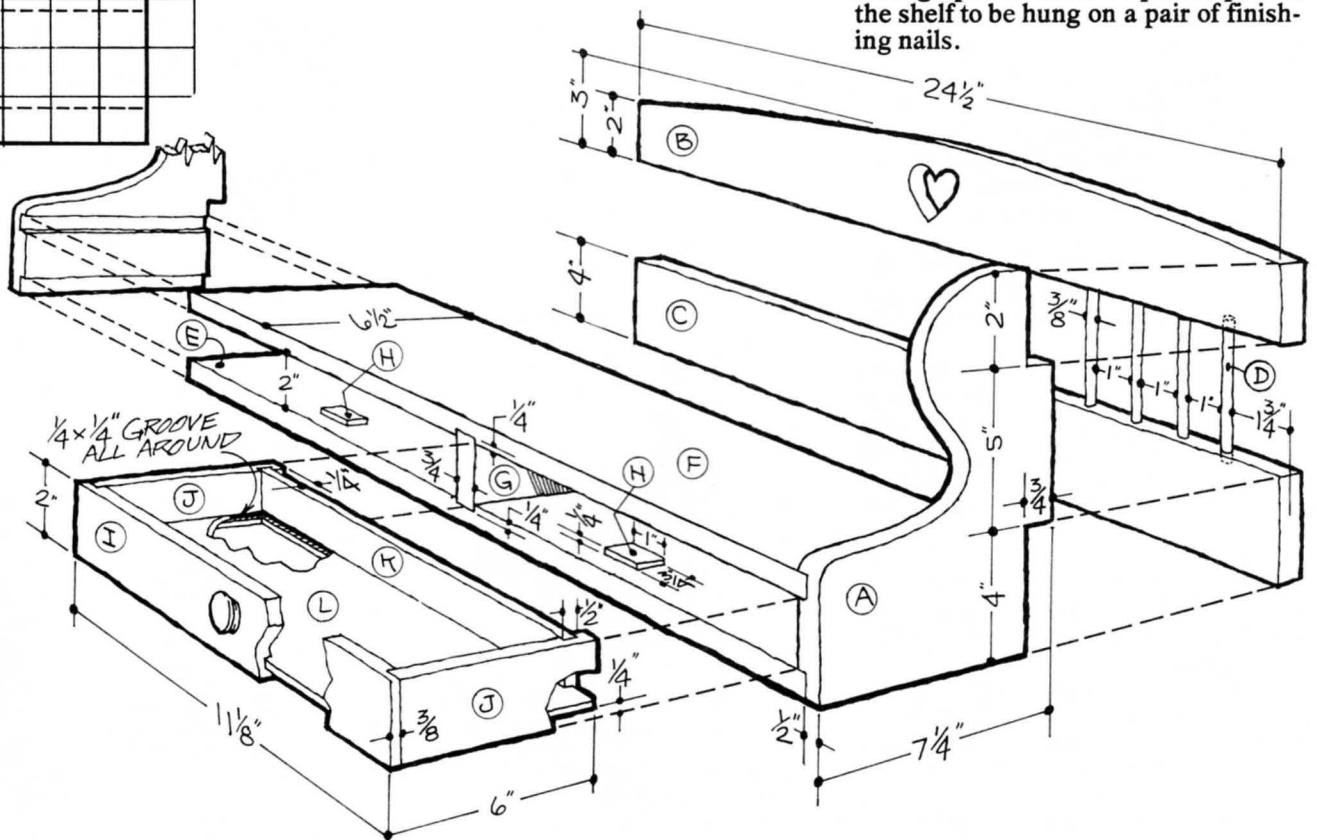
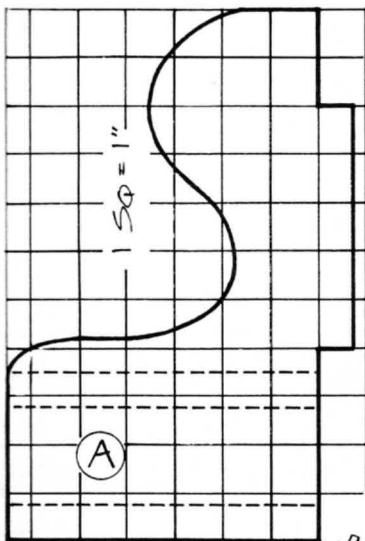
Parts E and F can now be cut to size. Note each one has a $\frac{1}{4}$ " deep dado to take part G. Cut part G so that its end grain goes into the dados rather than showing in front.

After parts B and C are cut to size, lay out and mark the location of the sixteen dowels. Use a $\frac{3}{8}$ " dia. bit to drill each hole to a depth of $\frac{3}{8}$ ". If you have one, use a countersink bit to apply a slight ($\frac{1}{16}$ ") chamfer to each hole. It's a small detail, but one that shows that care and concern went into the piece.

Sand all parts thoroughly, then assemble using glue and finishing nails. Since the shelf is fairly heavy and is hung from part B, be sure to glue each dowel for added strength. Assemble the drawers as shown. A $\frac{1}{4}$ " by 1" notch is cut in the bottom of part K to permit the drawer to fit over part H.

Our shelf is finished with one coat of Deft Pumpkin wood stain followed by two coats of Deftco (Deft) Danish Oil Finish. Two angled holes drilled through part B and into part A permit the shelf to be hung on a pair of finishing nails.

Bill of Materials (All Dimensions Actual)			
Part	Description	Size	No. Req'd
A	Side	$\frac{3}{4}$ x $7\frac{1}{4}$ x 11	2
B	Upper Back	$\frac{3}{4}$ x 3 x $24\frac{1}{2}$	1
C	Lower Back	$\frac{3}{4}$ x 4 x $24\frac{1}{2}$	1
D	Dowel	$\frac{3}{8}$ dia. x $5\frac{1}{4}$	16
E	Bottom	$\frac{3}{4}$ x $6\frac{1}{2}$ x $23\frac{1}{2}$	1
F	Shelf	$\frac{3}{4}$ x $6\frac{1}{2}$ x $23\frac{1}{2}$	1
G	Divider	$\frac{3}{4}$ x $6\frac{1}{2}$ x $2\frac{1}{2}$	1
H	Drawer Stop	$\frac{1}{4}$ x $\frac{3}{4}$ x 1	2
I	Drawer Front	$\frac{3}{4}$ x 2 x $11\frac{1}{4}$	2
J	Drawer Side	$\frac{1}{2}$ x 2 x $5\frac{1}{2}$	4
K	Drawer Back	$\frac{1}{2}$ x 2 x $10\frac{3}{4}$	2
L	Drawer Bottom	$\frac{1}{4}$ x $4-15/16$ x $10-9/16$	2

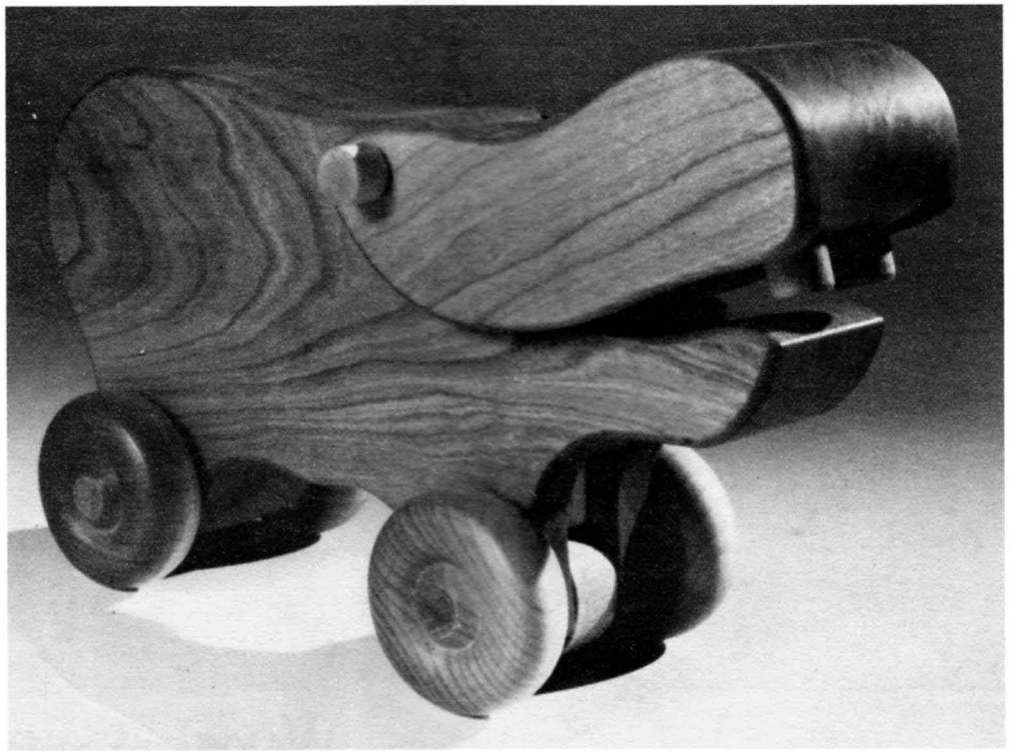


Little people are sure to enjoy this friendly fellow whose mouth opens and closes as he rolls along. Since they can be pretty tough on toys though, it's best to use a hardwood here, preferably maple or birch.

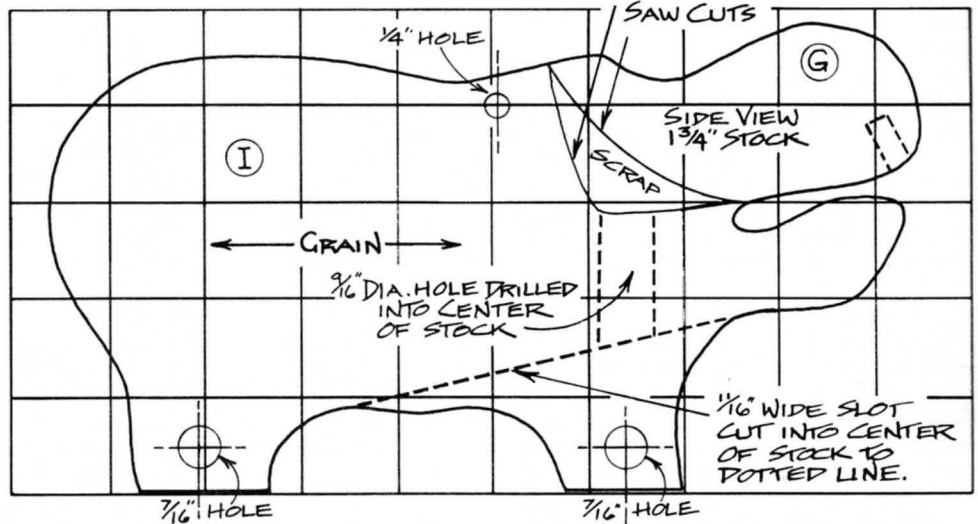
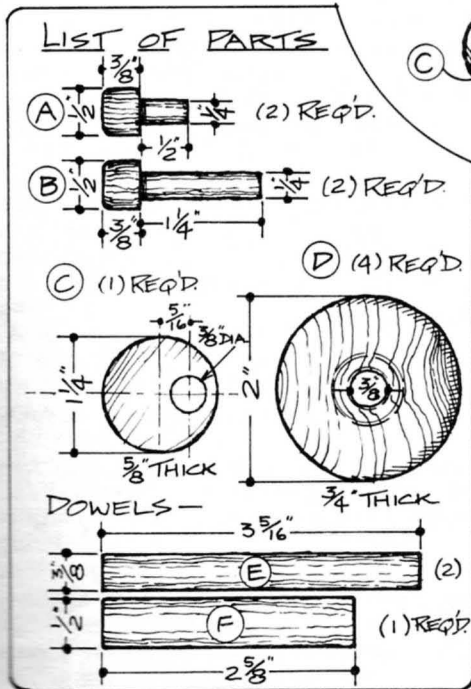
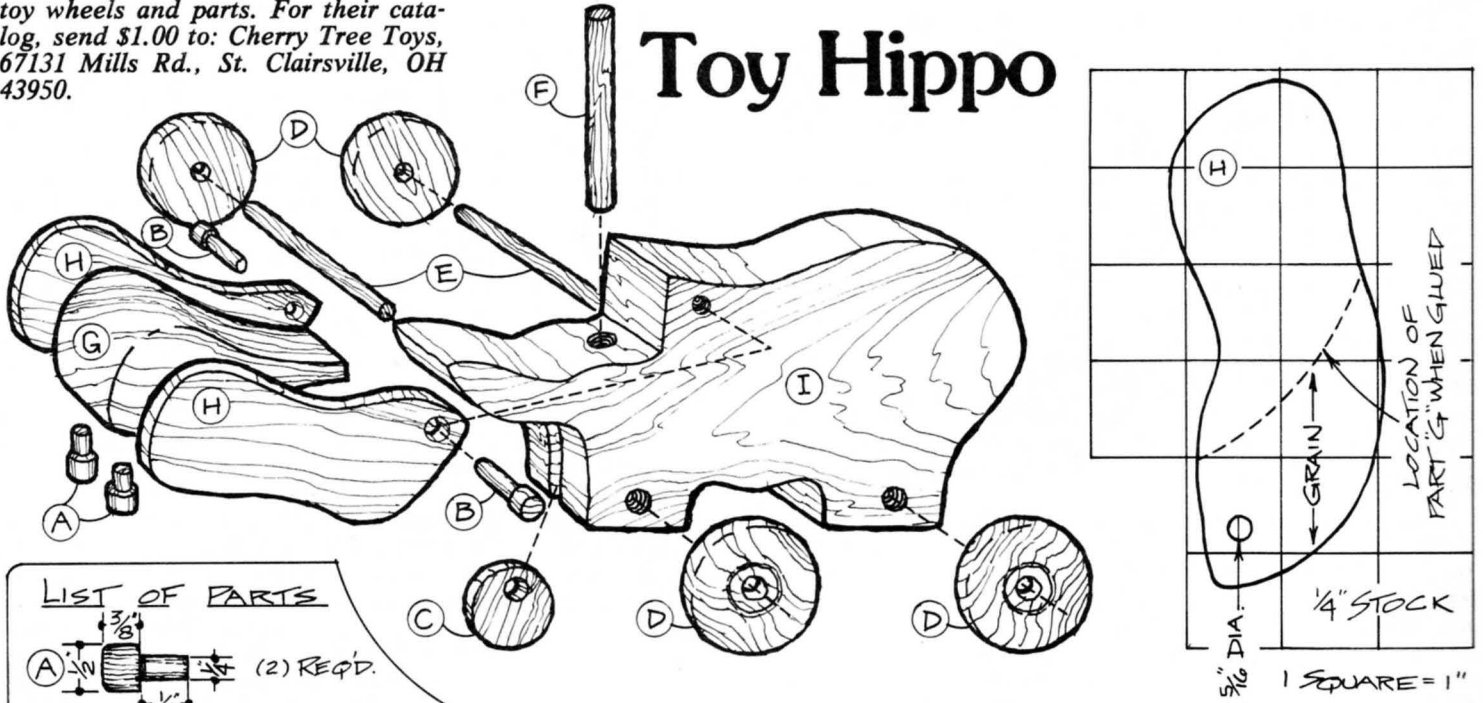
Start by cutting 2" nominal (1 3/4" actual) stock to 5" wide x 10" long. Transfer the hippo's profile to the stock, then locate and drill the 9/16" center hole and 7/16" wheel holes. Next, use a band saw to cut out the hippo profile. Also cut out part G and the area of scrap stock, following the saw cuts shown. The 1 1/16" slot is cut in the front leg with a back or dovetail saw. Make two cuts to establish the width, then remove scrap with a sharp chisel.

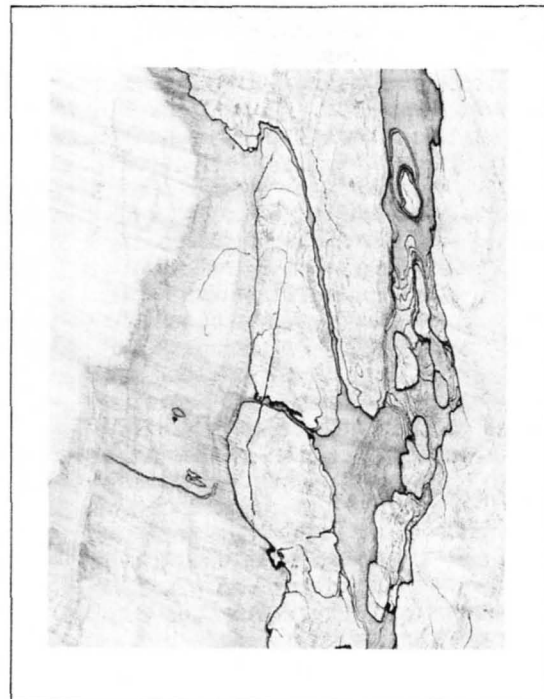
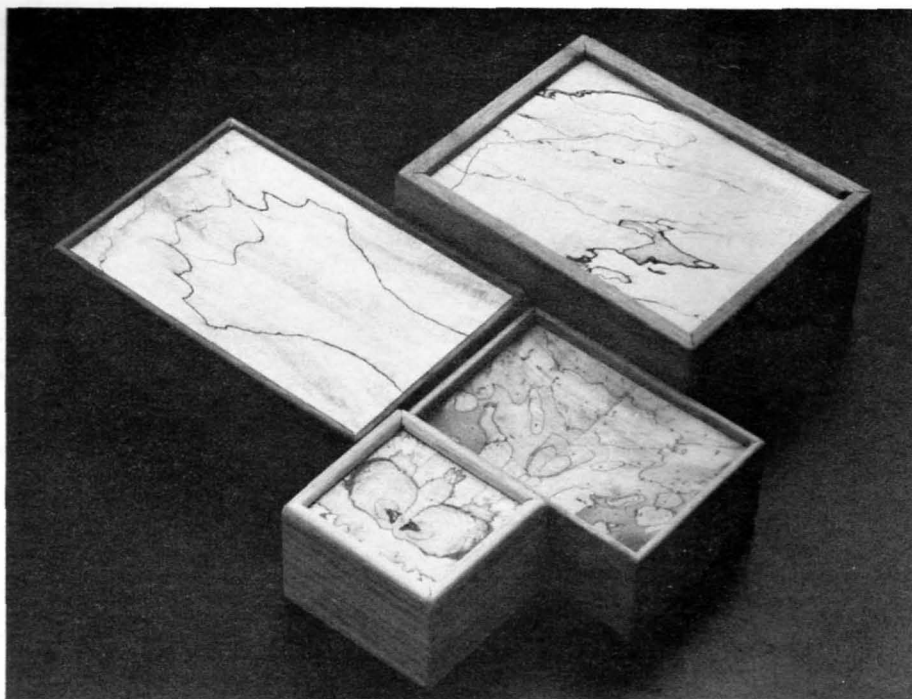
Cut the remaining parts, then assemble as shown. Be sure that part C is firmly glued to part E. When dry, sand thoroughly, removing all sharp edges. No final finish is added.

Editor's Note: Our thanks to Cherry Tree Toys for providing us with the plans for this project. Cherry Tree Toys is a new company supplying plans for wooden toys and hardwood toy wheels and parts. For their catalog, send \$1.00 to: Cherry Tree Toys, 67131 Mills Rd., St. Clairsville, OH 43950.



Toy Hippo





Spalted Wood Boxes by Paul Levine

If you have access to a woodlot or even a good pile of well-seasoned firewood, you may have the opportunity to obtain some spalted or partially rotted wood which, when cut into longitudinal or cross sections and book-matched, can produce some exquisite small panels for box lids, small frame and panel doors, and even jewelry.

Spalting is caused by moisture and fungus and can be recognized by intricate patterns of black or dark brown lines and sometimes zones of varying colors within the wood. The lines, which look as if they had been drawn with a fine pen and India ink, mark the advance of various fungi responsible for rot. When wood is left in contact with warm moist earth, fungus attack is likely. If left alone under the right conditions, the wood will eventually decompose entirely. However, if you dry the wood out, the decaying process is halted. The trick is to find the right kind of wood at the right time...when the decay process is far enough advanced to produce spalted patterns, but before the wood reaches the "punky" or soft rotted stage.

Harvesting spalted wood may be easier than you think. In a pile of well-seasoned firewood, chances are that some of it may be spalted. Generally, firewood cut in short lengths and left in open uncovered piles for a few months will be moderately spalted. Not all species display the beautiful and complex spalting patterns though. The best examples will be found in the hardwoods of normally pale color such as the maples, various birches and fruitwoods. Oak will sometimes display spalting though most of the time it will start getting rotted and soft in the outer layers without any appreciable spalting advancing into the heartwood. Some fruitwoods, particularly apple, will spalt though generally not in as colorful a way as maple.

To determine if spalting exists within a piece of wood, examine the end grain. If the ends haven't blackened, the irregular patterns may be apparent. A good clue for firewood, standing or felled dead trees is fungus growths on the ends of logs or anywhere along the trunk. Smaller parts, such as limbs, may display more advanced spalting than the trunk or very large limbs.

Once you've located a piece of spalted wood, you have to decide how to cut it to achieve the most interesting figures, particularly when consecutive slices are book-matched to form intriguing "pictures" which, like Rorschach ink blots, are limited only by the imagination of the viewer. End grain and long grain cuts will produce entirely different patterns. For small boxes of 4 or 5 inches length, even a short chunk of spalted maple will provide enough material for you to

experiment with different types of cuts. It's fascinating to make consecutive cuts along different planes and see what kind of interesting designs can be achieved, particularly in view of the fact that the spalting patterns may vary depending on the thickness of the slices.

End grain cuts are made straight down just like cutting a loaf of bread, or they may be made at a slant. End grain cuts made perpendicular to a small log or limb are sometimes referred to as oysters. When the cuts are made at a slant, the sectional slices are more elliptical in shape and do in fact resemble oyster shells. Oyster shell veneering is an interesting method of decorating small boxes. Thin cross-sections of a limb are cut and dried. These sectional wafers are then cut into various shapes such as squares or polygons and glued together to form panels which are then glued to the surfaces of a box. Cuts made lengthwise with the grain will produce equally interesting designs and result in longer slices which can be book-matched to form larger panels.

The easiest way to make either long or end grain cuts is with a bandsaw, but a bow saw will do the job nicely. An ordinary panel saw can be used though its kerf is a bit wide and the cut surface will require more sanding. The sections or lengths are usually small so that the rough cutting takes little time. The only difficulty is in cutting the slices very thin. I generally cut mine to 3/16" thickness; final sanding brings them down to 1/8". If thicker slices are used, remember to allow more drying time.

After cutting either end or long grain sections, keep them in consecutive order and stack them with paper towels or other absorbent material interleaved. The stack should then be covered top and bottom with a piece of plywood and pressed under heavy weights or put in a press or vise. In a dry warm place they will be ready for use in a few days. Drying time will vary depending on species, amount of moisture present and the drying environment, but don't try to rush the process with excessive heat as a lot of cracking will occur.

When the sections are dry, choose consecutive pieces with a potentially interesting picture and book-match them. To do this, tape them together and, using a sharp utility knife or razor knife, make two parallel cuts, each being about 1/4" from each long side. This will give you your gluing edge plus parallel straight edges to clamp against. Place the book-matched pieces on wax paper, or some other surface where glue will not adhere, and clamp the pieces together using only light pressure to prevent buckling. The

assembly is left in the clamps just long enough for a good glue bond. In a dry shop at about 65 degrees, twenty-five minutes using yellow glue is sufficient. With only one side of the panel exposed it doesn't take long for warping to occur; hence the clamping time should be kept to a minimum.

After removing the clamps, stand the assembled panel on end so both sides are free to dry evenly, and keep the panel this way until the glue has completely dried. The panel can then be cut and sanded to the desired dimensions and stored on end until needed.

Of course you don't have to make a box; you can use this spalted material in any way you wish. Even if you choose to make a box, instead of providing a book-matched panel just for the lid, you can completely veneer the box with matched pieces cut either along the grain or as oysters cut from end grain. Incidentally, you don't have to use only spalted wood for oyster veneering. Cross sections cut from unspalted limbs of many species, particularly those which have great contrast between sapwood and heartwood, will provide a striking effect when joined into small panels and used to cover small boxes.

Making Boxes

To make boxes of the type shown, select a book-matched spalted panel and measure the sides to determine the dimensions of the box sides. The height of the boxes shown, including the lids, runs between 1½" and 2". For the sides and box bottom, select a wood that will complement the spalted top. You really can't go too far wrong here. The top will steal the show no matter what you choose.

Resaw the wood for the sides to 3/16" or ¼" thickness. Thinner is better for me. I like the light and delicate feel of a thin box, but you must decide for yourself what your taste and ability can handle. The resawed pieces are ripped to a width equal to the depth of the box. The ends of these strips are then crosscut at 45 degrees to form miter joints at the box corners. I use a miter box and an X-acto razor saw, which looks like a small dovetail saw, for this job.

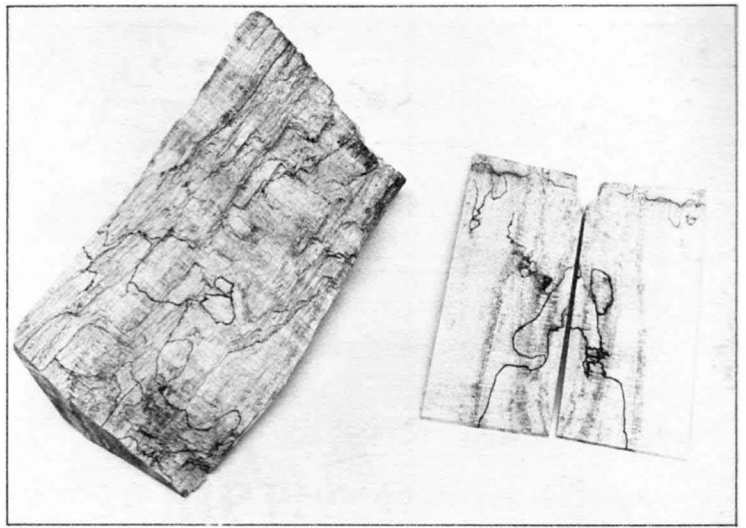
The strips, after being mitered, should be ¼" longer than the sides and ends of the top panel. The inside faces must then be grooved near the top and bottom edges to receive the top panel and box bottom. Because very small amounts of material are being removed, handling these small pieces can be tricky and great care must be taken while machining them. If proper push sticks are used, the work can be done easily and in safety. I use a table saw after first fitting the table with an auxiliary blade insert.

The insert is made from plywood and shimmed up, if necessary, so that it will sit flush with the table top. After cutting the insert to fit the shape of the opening, start the saw and raise the blade to a height of 1/16" while holding the insert down with a clamp or a push stick. This insert will prevent the thin piece being worked from slipping down alongside the blade.

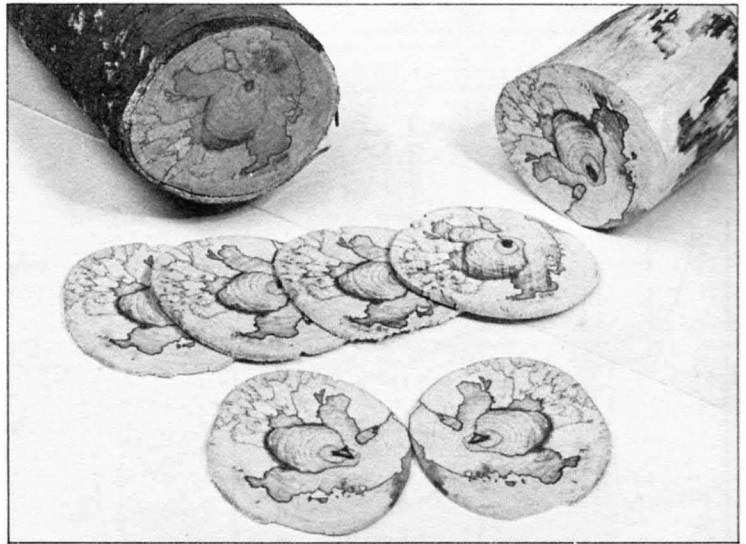
Set the fence so that the first cut will be made ¼" from the edge of a side strip. Make a test cut on scrap, using push sticks. If the test cut is correct, proceed to make the two grooving cuts on the inside face of each side. These grooves can also be cut with a router mounted in a table.

If you have cut your top panel so that after sanding it is about ¼" thick, and you have a carbide blade that cuts a ¼" kerf, the box will be ready for test assembly. If your top is a bit thicker than ¼" or your saw blade cuts a narrow kerf, you will have to reset the fence for another series of cuts to widen the grooves. Again, make test cuts first. The top panel should fit snugly in the side grooves and the joints at the corners should be close. If the joints don't quite close, pare the top down until they do. With the dimensions that I've given, you should find that the top is not too small for the sides. It's better to start this way and trim from the top as necessary. If the sides are too long and the top wants to fall out, you will have to trim the sides down which may result in tearing out grain at the grooves so it's better to have the sides a trifle on the short side.

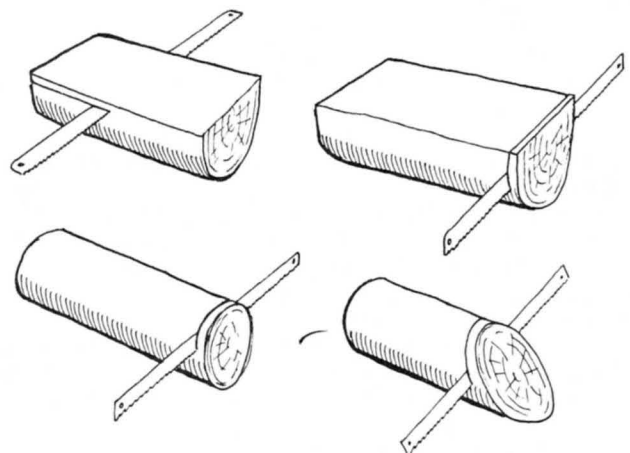
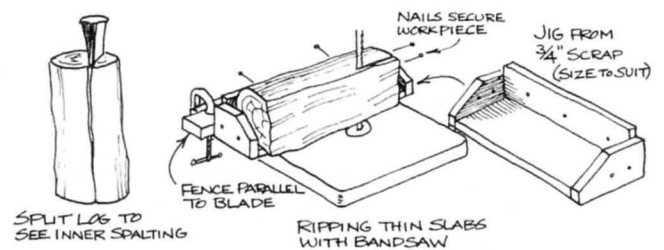
When the top and four sides fit together properly, make a bottom exactly the same size as the top. I usually use the same kind of wood as used for the four sides. Depending on



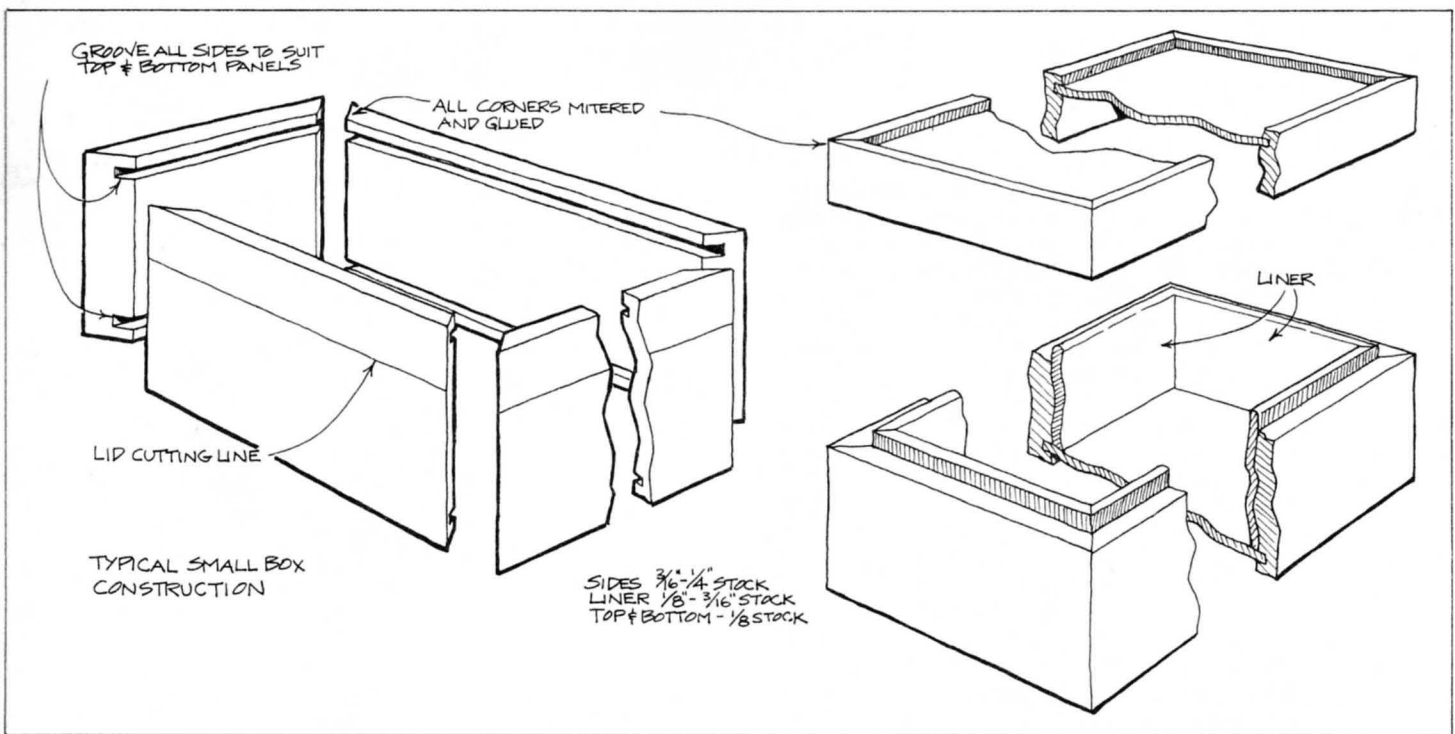
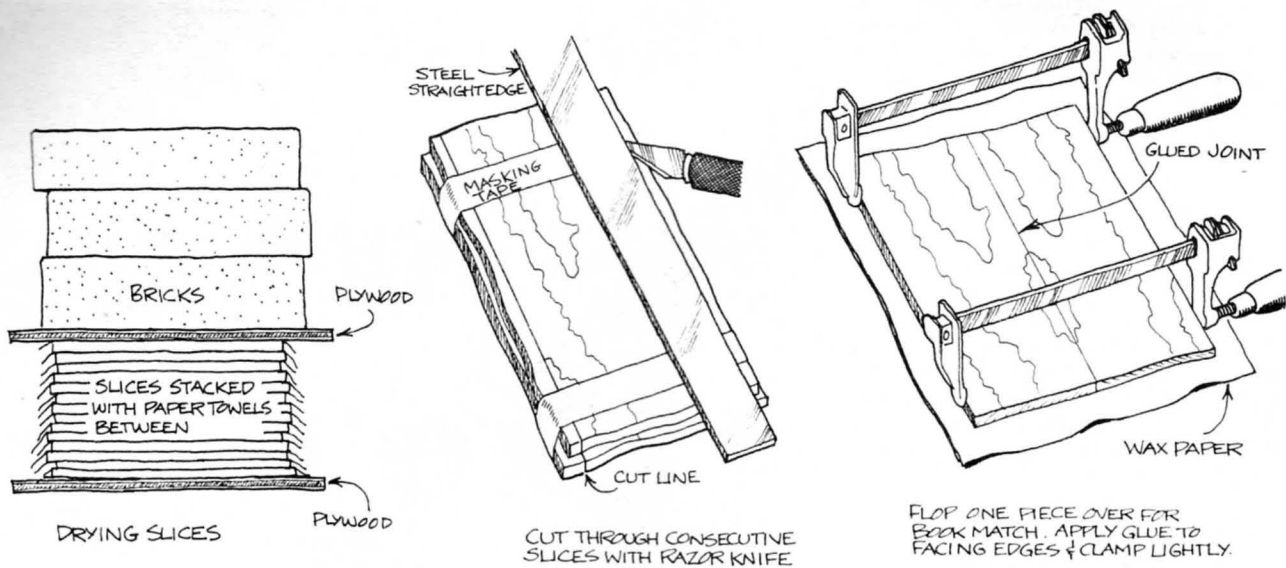
A chunk of spalted maple and two book-matched slices cut lengthwise with the grain.



A spalted cherry limb with consecutive end grain cuts. The two slices in the foreground will be trimmed square and joined.



FOUR METHODS OF CUTTING (USE BAND OR BOW SAW)



the size of the box, this bottom panel can be resawed in one piece from thicker wood or glued up from two pieces as was the top.

When you are ready to glue up after sanding, dry test the assembly once more. If everything looks good, use yellow glue sparingly at the mitered corners and one small dot of glue on the center of each side (in grooves). Try to use as little glue as possible to prevent a lot of squeeze-out, particularly on the inside. Hold the assembly tight with hand pressure for about three minutes and then set down to dry completely.

After drying, give the outside surfaces a final sanding. I generally finish with 220 grit paper. The lid must then be removed from the box by making a cut around all four sides. This cut can be made one-third of the way down from the top of the box. The bandsaw is best for this job. (*Editor's note: see box lid cutting jig in the July/August 1981 issue of The Woodworker's Journal*). It can also be done with a fine tooth blade in a bow saw. Cuts should be made backed up with scrap to prevent splintering.

I rarely hinge my box lids but instead glue a thin liner in place on the inside to form a lip which holds the top and seems to greatly enhance the appearance of the box. The

liner is resawed from the same wood as the box sides, or sometimes from a contrasting wood. The thickness of the liner is generally slightly less than the thickness of box sides. After measuring the depth of the box without the lid, I add 3/16" to this measurement and rip the liner strips to that width. These are then mitered at the ends to fit snugly around the inside of the box. A bit of glue is dabbed on the box sides and some finger pressure for a few minutes secures the liner. The edges of the protruding lip are rounded slightly with fine sandpaper.

Most of my boxes are finished with Watco Danish Oil and wax. You can use any finish you prefer but if you use an oil finish and intend to sell the boxes, it might be wise to warn your customers that the finish will have to be renewed from time to time.

In closing I'd like to add that I sell these boxes just about as fast as I can make them. Most of the sales are made through various galleries and shops that deduct a commission of 30 to 50% from the selling price. The prices are determined by several factors including the beauty or rarity of the wood and the difficulty in working it. Most of the woods I use come from piles of firewood and choice pieces saved for me by friends.

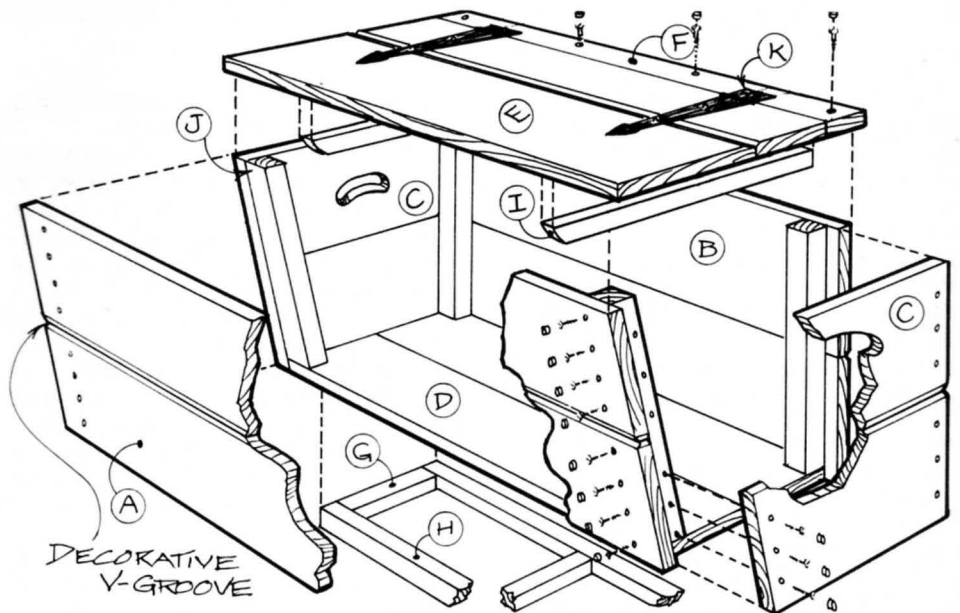
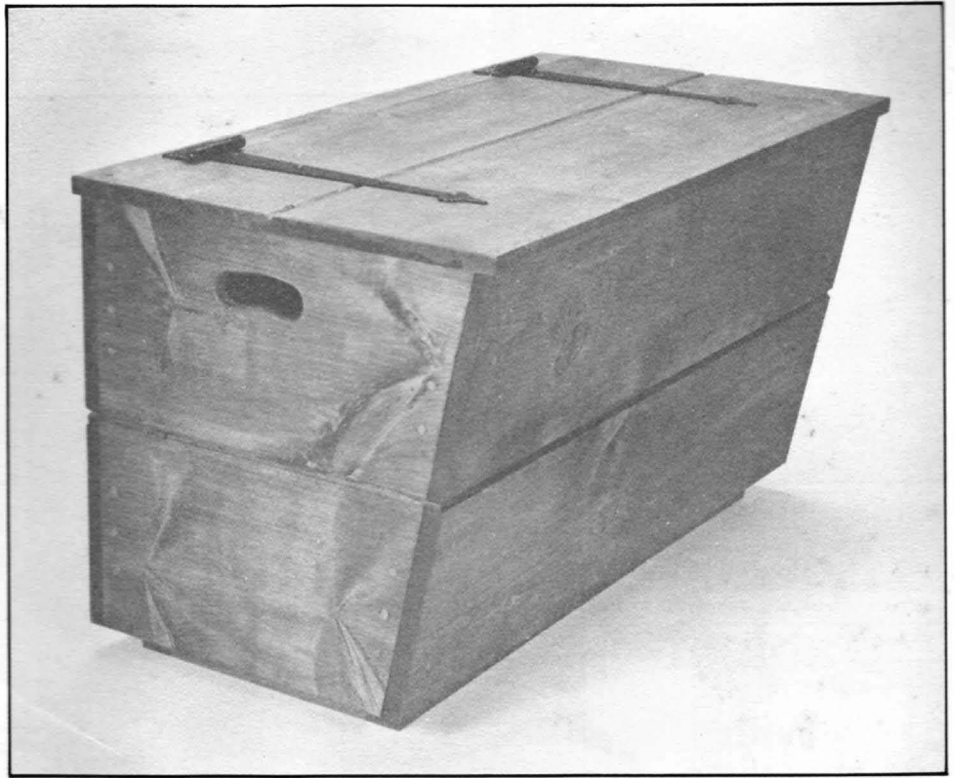
Woodbox

by Raymond Schuessler

A woodbox can be a useful accessory for most any home that enjoys a woodstove or fireplace.

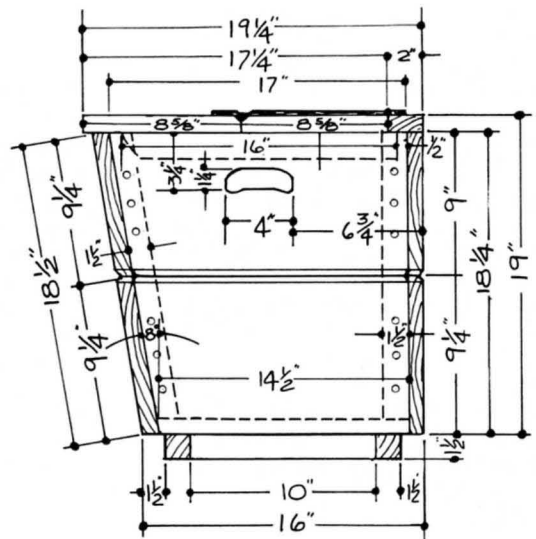
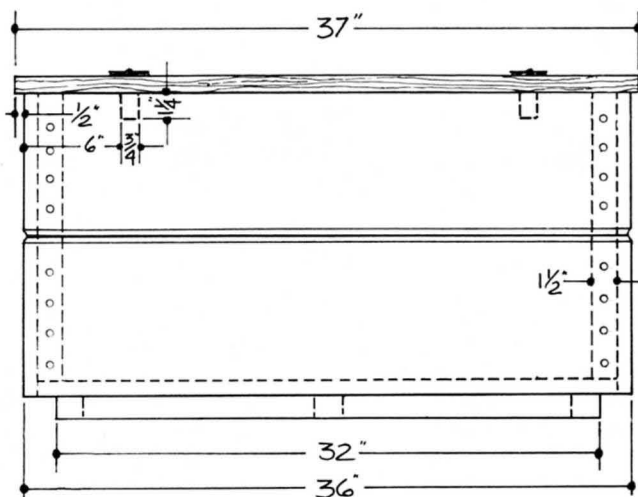
Parts A, B, C, and E are made from edge-joined 1" x 10" nominal ($\frac{3}{4}$ " thick x 9 $\frac{1}{4}$ " wide actual) stock. Parts B and C then have $\frac{1}{4}$ " trimmed from one edge resulting in a width of 18 $\frac{1}{4}$ ". Part E is also trimmed so that each board measures 8 $\frac{3}{8}$ ". Part D is made from edge-joined 1" x 8" nominal ($\frac{3}{4}$ " thick x 7 $\frac{1}{4}$ " wide actual) stock. If you use dowel pins to edge-join, center them on the $\frac{3}{4}$ " thickness ($\frac{3}{8}$ " in from the edge) and use $\frac{1}{4}$ " dia. pins. This keeps the dowels from showing when the decorative groove is cut.

Assemble as shown on the drawing. Use glue on all joints and wood screws, countersunk and plugged, where shown. Secure the bottom (D) with a $\frac{3}{8}$ " x 2" lag screw driven into each corner block (J). The decorative groove is applied with a router and $\frac{1}{2}$ " v-groove bit, set for a $\frac{3}{16}$ " depth of cut. The hinges, purchased locally, are made by Acorn Mfg. Co., Mansfield, MA 02048.



Woodbox - Bill of Materials
(All Dimensions Actual)

Part	Description	Size	No. Req'd
A	Front	$\frac{3}{4}$ x 18 $\frac{1}{2}$ x 36	1
B	Back	$\frac{3}{4}$ x 18 $\frac{1}{4}$ x 36	1
C	Side	$\frac{3}{4}$ x 18 $\frac{1}{4}$ x 17	2
D	Bottom	$\frac{3}{4}$ x 14 $\frac{1}{2}$ x 34 $\frac{1}{2}$	1
E	Top	$\frac{3}{4}$ x 17 $\frac{1}{4}$ x 37	1
F	Cleat	$\frac{3}{4}$ x 2 x 37	1
G	Base End	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 10	2
H	Base Ft. & Back	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 32	2
I	Batten	$\frac{3}{4}$ x 1 $\frac{1}{4}$ x 16	2
J	Corner Block	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ x 17 $\frac{1}{2}$	4
K	13" Strap Hinge	Acorn # 0123BH	2





Sewing Cabinet

With Tambour Doors



by Thomas A. Gardner

This charming antique sewing cabinet has been a family possession for years. When it was made, or where, is not known. Most of the parts are walnut, but readers will find that just about any wood species, even pine, is acceptable. To avoid trouble, it's absolutely necessary to work accurately and follow the construction details with care.

Begin with part F, cutting it to overall length and width. Lay out and mark the $\frac{1}{8}$ " deep x $\frac{5}{16}$ " wide x $3\frac{3}{8}$ " long groove, then cut out using a router and a straight bit. The cove is cut with a $\frac{1}{4}$ " cove bit.

Part D can now be cut to length and width. This part also has $\frac{1}{8}$ " deep x $\frac{5}{16}$ " wide by $3\frac{3}{8}$ " long grooves cut in the underside. In order for the base to be square, these grooves must be exactly in line with those in part F. As shown in the front elevation view, these grooves are located $\frac{3}{8}$ " in from each end. The $\frac{1}{4}$ " cove bit cuts the front and side coves.

An easy-to-make template is used to cut the tambour grooves for part D. To make the template, cut $\frac{3}{4}$ " plywood to the shape of the inner oval on the detail of the tambour groove cut (page 33). Note that it measures $2\frac{3}{4}$ " wide x $6\frac{1}{2}$ " long with a $1\frac{1}{2}$ " radius on each end. Carefully locate the template on part D, then secure with two short wood screws. The $\frac{1}{8}$ " deep groove is cut using a drill press and $\frac{3}{16}$ " round bottom router bit. The material in back is cut away to permit the insertion of the tambour doors after the body is assembled. Part D also has a groove to accept part C. Locate these $\frac{3}{8}$ " in from

the side as shown. Use a router with a $\frac{1}{8}$ " straight bit to make the cut.

out and cutting the tambour groove so that it is exactly over the groove in part D. Perhaps the best way to do this is to place B & D back-to-back, tambour groove side up. Now transfer the groove locations from D to B. Again use the template to cut the groove. Part B also has $\frac{1}{8}$ " x $\frac{1}{8}$ " x $1\frac{3}{4}$ " grooves for part C. Be sure these line up exactly with the mating grooves in part D. A $\frac{1}{8}$ " x $\frac{1}{8}$ " x $7\frac{3}{8}$ " stopped rabbet can now be cut in the back edge to accept the back (H). Complete B by cutting the $2\frac{1}{4}$ " radius and routing the cove with the $\frac{1}{4}$ " cove bit.

Part E has a $\frac{1}{8}$ " x $\frac{1}{8}$ " rabbet for the back (H) and $\frac{1}{8}$ " x $\frac{1}{4}$ " notches are made on both front corners. Part C has a $\frac{1}{8}$ " x $\frac{3}{16}$ " rabbet for the back. A 1-11/16 radial cut allows room for the tambours. It's also rabbeted and notched to fit parts B & D. Part A can now be made as shown in the drawing.

Parts A, B, C, D, E, & F are now assembled. Sand thoroughly, then start by joining D, E, & F. First, dry assemble for fitting and squareness. If o.k., apply glue and clamp, again checking for squareness. Part A is attached to B using $\frac{3}{4}$ " x #6 wood screws. Parts B and C can now be joined to D.

The tambour strips are cut and shaped as shown. Canvas, denim, or any other tough, flexible material can be used for the backing. Cut it so it will be $\frac{3}{8}$ " from the top and bottom. To apply the backing, place the tambour strips face down tightly against one another. Square the strips. Now, using thin strips of wood, fashion a frame

tightly around all four sides and secure with brads. This frame acts to keep the strips in place while applying glue and backing. Coat the tambours with glue and apply backing, keeping it smooth and even. After the glue has set, break the joint between the tambours. Round the upper and lower corners of the leading and rear tambours.

The tambours are now installed from the back of the cabinet. Some sanding will generally correct any irregularities. When adjusted, apply a coat of wax to the tambour ends, then attach the back (H).

Cut the thread holder (parts I) as shown. The spindle (J) is turned and attached off-center in the $\frac{1}{2}$ " holes. The holes for the thread holders are drilled using a #4 finishing nail with the head removed. Now drill 14 holes for the thread holder (8 in the upper, 6 in the lower, evenly spaced). Number 4 finishing nails, shortened to 1", are set in each hole from the bottom. The wood screw acts as a fulcrum for turning the thread holder out of the cabinet.

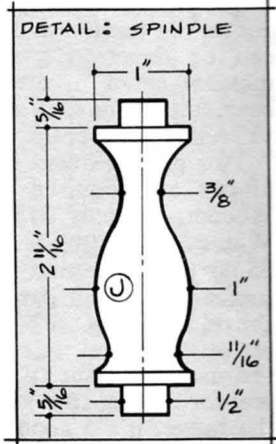
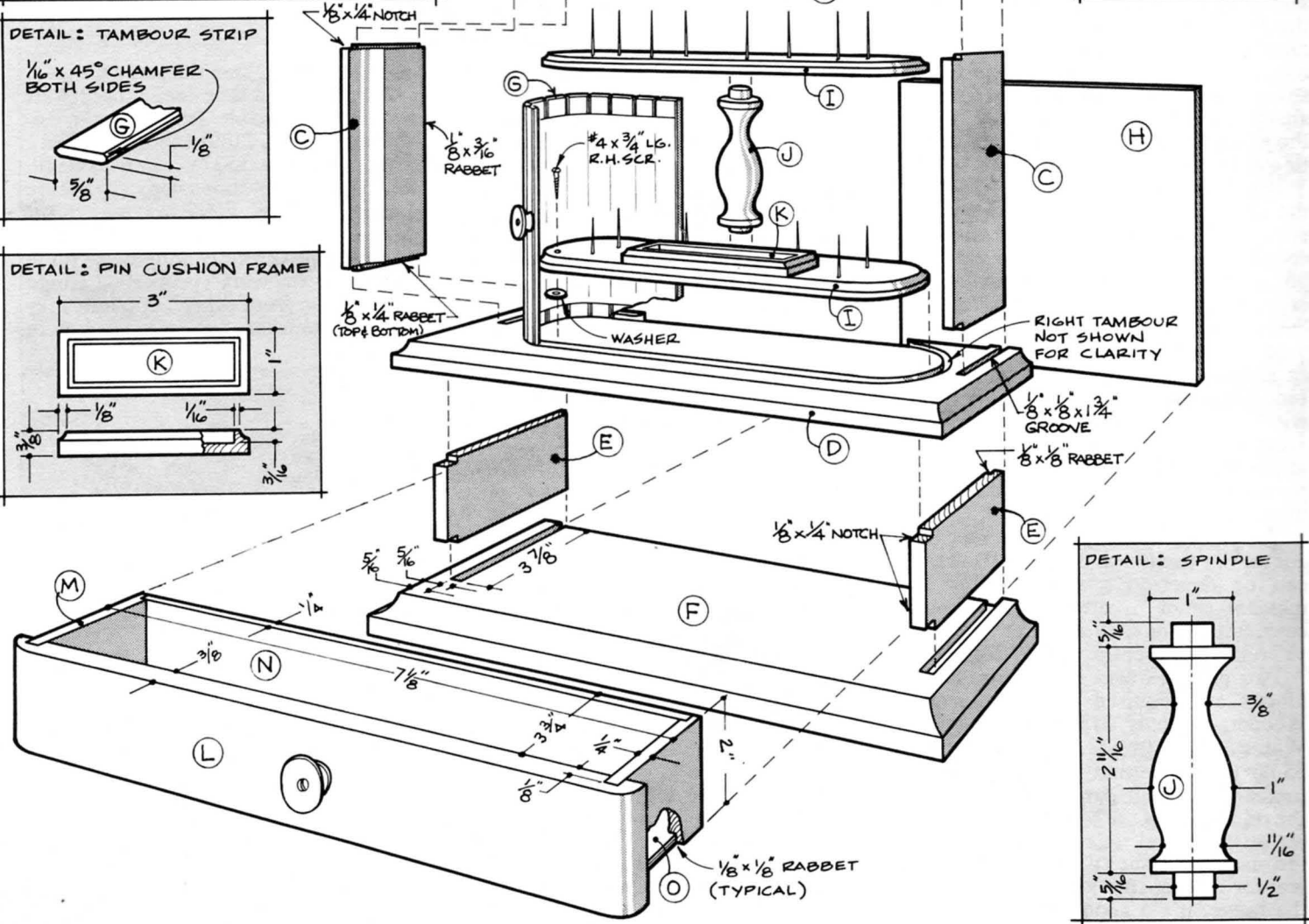
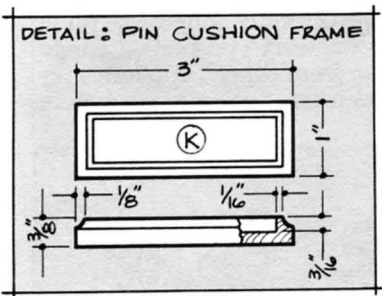
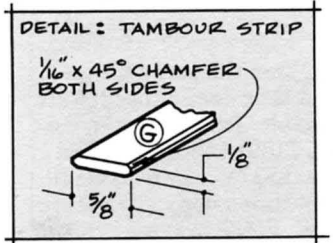
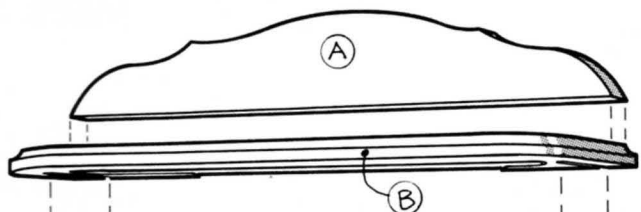
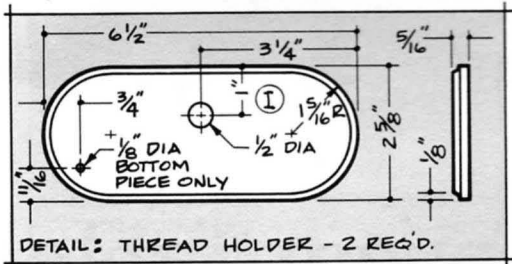
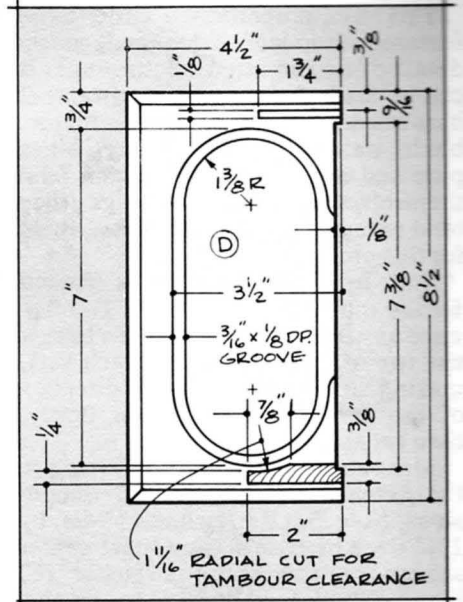
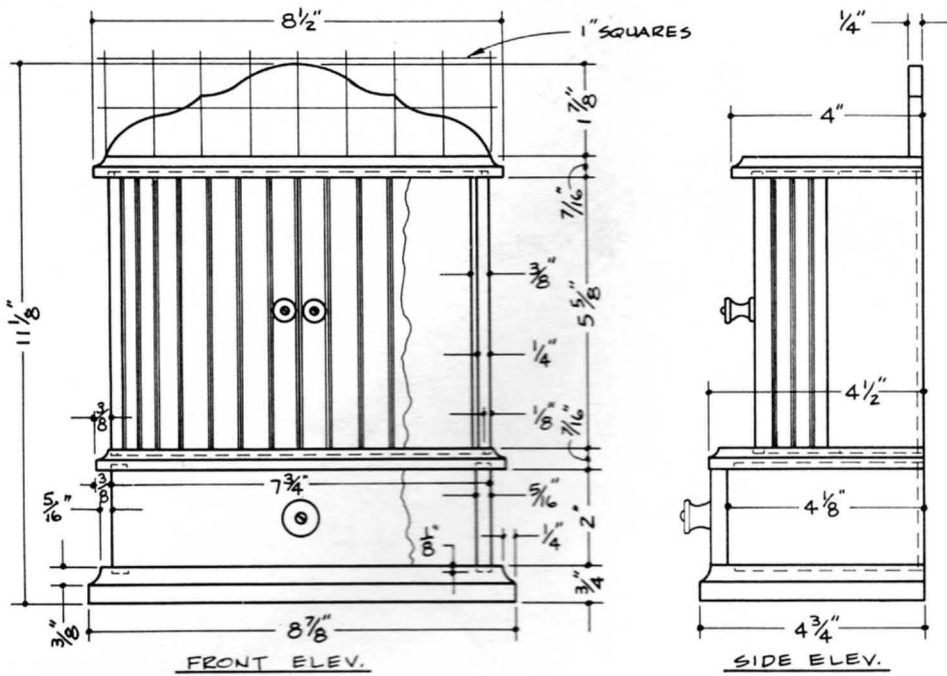
The pin cushion holder is prepared as shown. The interior is either routed or chiseled out by hand. Attach it with either a screw or with glue. The cushion can be made out of sponge rubber covered with fabric. It is glued in place. The assembly is attached to the cabinet with a round headed screw and a washer under the lower level--for smoother movement. Test for performance. Make any necessary adjustments. It will be a time saver if all parts of the thread holder are sanded, varnished and waxed before assembling.

The drawer is of simple construction. The front is walnut, the other parts are of pine. The bottom, $\frac{1}{8}$ " plywood, is inserted into $\frac{1}{8}$ " x $\frac{1}{8}$ " grooves cut in all four sides, as shown.

Finish with 2 or 3 coats of satin polyurethane, rubbing down the final coat with 0000 grade steel wool. A good grade of furniture wax completes the project.

Bill of Materials - Sewing Cabinet
(All Dimensions Actual)

Size	Part	No. Req'd
A	$\frac{1}{4}$ x $1\frac{1}{2}$ x 8	1
B	$7\frac{1}{16}$ x 4 x $8\frac{1}{2}$	1
C	$\frac{3}{8}$ x 2 x $5\frac{1}{2}$	2
D	$7\frac{1}{16}$ x $4\frac{1}{2}$ x $8\frac{1}{2}$	1
E	$5\frac{1}{16}$ x $4\frac{1}{2}$ x $2\frac{1}{4}$	2
F	$\frac{3}{4}$ x $4\frac{3}{4}$ x $8\frac{1}{2}$	1
G	$\frac{1}{4}$ x $\frac{3}{4}$ x $5\frac{1}{2}$	16
H	$\frac{1}{4}$ x $7\frac{3}{4}$ x $8-5/16$	1
I	(See Detail)	2
J	(See Detail)	1
K	(See Detail)	1
L	$\frac{3}{8}$ x 2 x $7\frac{1}{4}$	1
M	$\frac{1}{4}$ x 2 x $3\frac{1}{2}$	2
N	$\frac{1}{4}$ x 2 x $6\frac{1}{4}$	1
O	$\frac{1}{4}$ x $3\frac{3}{4}$ x $6\frac{1}{4}$	1



This well-proportioned little table features drop-leaf sides and nicely detailed leg and stretcher turnings. It can be made from a variety of cabinet hardwoods including cherry, maple, birch, walnut, and mahogany. Since pine and other softwoods do not lend themselves to detailed turnings (they tend to tear), it's best not to use them for this project.

Start by gluing-up stock as needed for the top (H) and leaves (I). To minimize any tendency to warp, it's best to use two or three boards for each part, making sure to alternate the direction of the annular rings. Clamp firmly, then set aside to dry.

Make the legs (A) next, referring to the detailed drawing for all dimensions. Note that the leg has a 1" dia. by 1 1/4" deep mortise in the square center section to accept the stretcher (C) tenon. It's a good idea to make this hole slightly deep to allow for any excess glue. Also, at this time, drill and countersink for a 1 1/2" x #10 wood screw that will reinforce the joint. Locate the screw hole so that it will be centered on the tenon.

The stretcher (C) is made next, again referring to the drawing for all dimensions. Note that both ends have a 1" dia. by 1 1/4" long tenon. These tenons should be sized for a good fit in the leg mortises.

Cut the two feet (B) to overall length and width, then lay out the location of the 3/8" wide x 1 1/2" long x 1 1/4" deep mortise. Use a 3/8" dia. drill bit to remove most of the material, then square the corners and clean-up with a sharp chisel. Transfer the profile from the grid pattern to the stock before cutting out with a band or saber saw.

The front and back aprons (D) and the side aprons (E) have mitered corners. Before making these miters, check your table or radial arm saw to be sure it's cutting at exactly 45 degrees. If not, make adjustments before starting.

Make the four fastening blocks (G) as shown. Changes in moisture content will cause the top to change in width, therefore the blocks have elongation holes which allow free movement of the top. If this free movement is not permitted, stresses will build that might cause the top to crack.

The rule (drop-leaf) joint can now be cut on the top (H) and leaves (I). This can be done on a shaper using a matched set of 1/2" drop-leaf bead and cove cutters, or with a router using a 1/2" rounding-over bit and 1/2" cove bit.

Two pair of brass table (drop-leaf) hinges are required (available from Woodcraft Supply, 313 Montvale Ave., Woburn, MA 01888, p/n 16R42-PH, \$5.00/pr.). Note that one-half the diameter of the hinge barrel is mortised in the underside of the top. Also, the center of the barrel must be in line with the shoulder of the rule joint. To get a feel for cutting this joint and locating the hinge, it's a good idea to make a



18th Cent. Tavern Table

by Robert A. McCoy

practice joint on some short lengths of scrap pine.

A router equipped with a 1/4" beading bit is used to apply the decorative bead to the top and leaves. When cutting, use care at the point where the leaves meet the top, as this area may tend to split. To minimize this problem, use a small wedge of wood to fill the space between the two parts.

Final sand all parts, then dry assemble the legs, feet, stretcher, and aprons. If the assembly is satisfactory, the feet can be glued and clamped to the legs. When dry, the remaining base parts can be assembled, clamped and checked for squareness.

The finish is a matter of personal choice. The table can be stained, or if an open-grain wood is used, the reader may choose to start with a wood filler to fill-in the pores. Be sure to carefully follow manufacturer's directions with all finishing products. Final finish using 3 or 4 coats polyurethane varnish, with overnight drying between each coat. A light sanding with fine sandpaper is required after each coat has dried. Rub down the last coat with 0000 grade steel wool followed by a good wax polish.

To attach the top, place it upside down on clean papers or a pad to protect the finish. Center the base on the top, then fasten using 1 1/4" x #8 round head wood screws and washers. Remember the top must be free to move

so don't overtighten the screws.

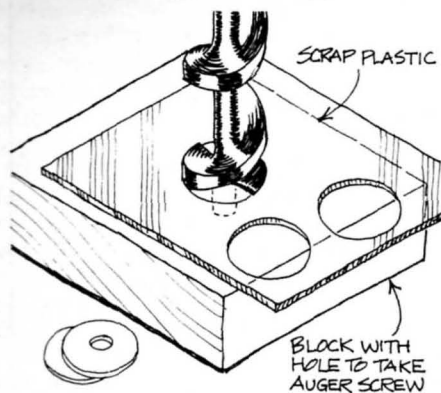
Two 6" table drop-leaf supports are required (available from The Woodworkers' Store, 21801 Industrial Blvd., Rogers, MN 55374, p/n D4510, \$2.75/pr.). The dimensions shown are based on The Woodworkers' Store hinge. These dimensions are critical and must be carefully adhered to if the hinge is to work properly. Hinge dimensions from other suppliers may vary somewhat, so check before installing.

18th Cent. Tavern Table

Bill of Materials
(All Dimensions Actual)

Part	Description	Size	No. Req'd
A	Leg	2 x 2 x 25 1/2	2
B	Foot	2 x 2 1/2 x 11	2
C	Stretcher	2 x 2 x 21 1/2 (Inc. tenons)	1
D	Ft. & Back Apron	3/4 x 3 1/4 x 20 1/4	2
E	Side Apron	3/4 x 3 3/4 x 7	2
F	Glue Block	3/4 x 3/4 x 3 3/4	4
G	Fastening Blocks	3/4 x 1 x 2 1/2	4
H	Top	3/4 x 10 x 26	1
I	Leaf	3/4 x 8 x 26	2

Shop Tips



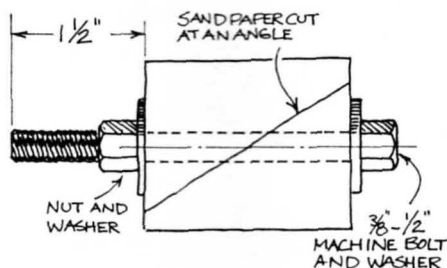
When thin plastic washers or spacers are needed to keep wood parts from rubbing, they can be easily obtained by cutting up plastic containers and turning a suitably sized auger bit by hand into the plastic. Work the auger from both sides until the washer is free. A block with a hole to take the auger screw provides a work surface.

James L. Via, Jr.

I make inexpensive sanding cylinders for use on my lathe or drill press. Scrap 2 x 4's are glued together and

cut to either 2" or 3" in length. A $\frac{3}{8}$ " or $\frac{1}{2}$ " hole is drilled through the center of the block and a machine bolt with a washer is pushed through as shown. A washer and nut are attached and tightened.

The block is chucked in the lathe and turned to the desired diameter. A piece of cloth-backed sandpaper is cut at an angle and glued to the cylinder with white glue. The cylinder is ready to use after drying for 24 hours.



I use $\frac{3}{8}$ " bolts for 1 $\frac{1}{2}$ " and 2" cylinders and $\frac{1}{2}$ " bolts for 2 $\frac{1}{2}$ " and 3" cylinders. Bolts should be about 1 $\frac{1}{2}$ " longer than the cylinders. To change the paper, simply tear it off, wash off glue, dry and glue new paper.

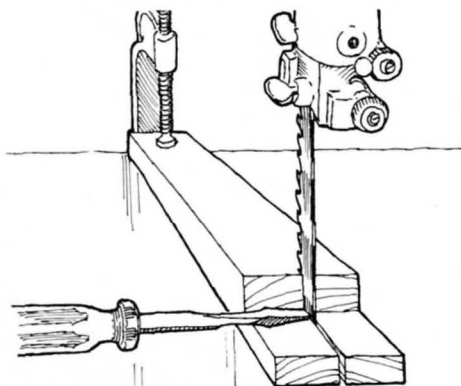
V.R. Stuart

I add rubber bands cut from inner tubes to the wooden wheels of toy trucks and other large toys. The "tires" help reduce noise, prevent marring of wood floors and look good too. They are simply glued on with contact cement.

Reinhart Burdt

When I need to quickly clean a band saw blade, I run a notched block into the blade, stopping it at a point where the teeth are just covered by the full thickness of the block. Then, with the saw running, I press a screwdriver against the side of the blade, scraping it clean.

Stanley Peterson



Router Jig For Stopped Dados

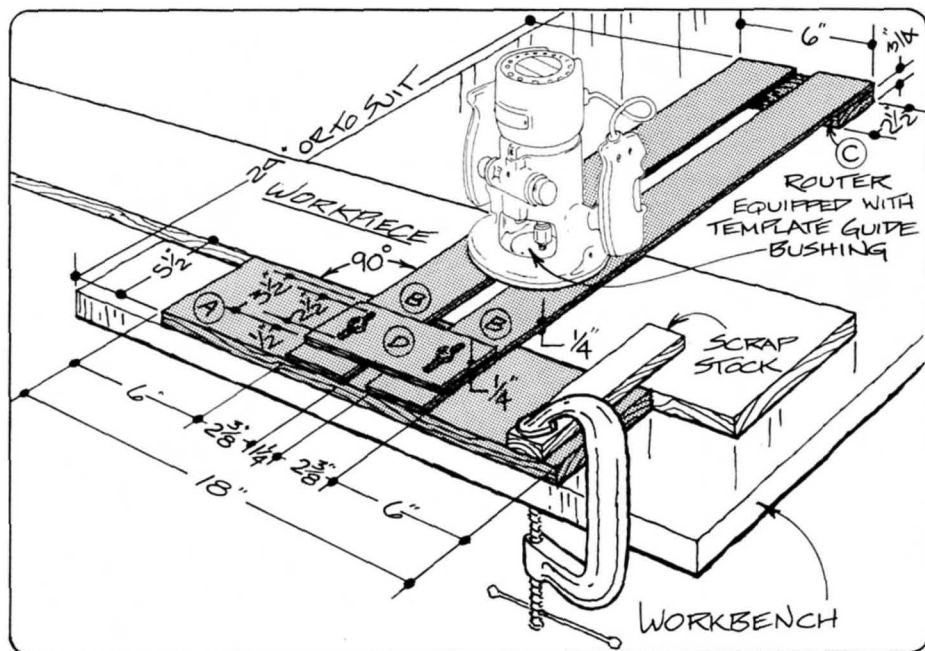
by Patrick Warner

This handy jig will save time when cutting stopped dados with the router. It's designed to handle a board up to about 14 $\frac{1}{2}$ " wide, but the dimensions can be changed to suit most any width. It can also be cut through dados.

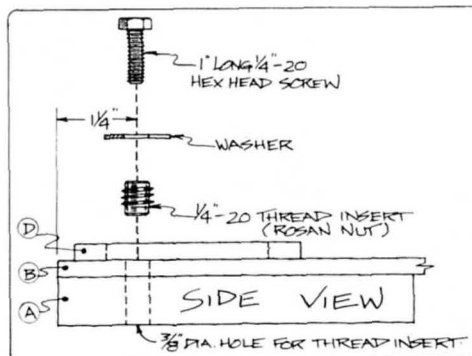
For durability, it's best to use a hardwood such as maple or birch for parts A and C. Parts B are made from tempered hardboard (Masonite). For part D, $\frac{1}{4}$ " hardwood plywood can be used, although $\frac{1}{2}$ " or $\frac{3}{4}$ " thick solid hardwood stock can be substituted.

Start construction by cutting part A to size ($\frac{3}{4}$ x 5 $\frac{1}{2}$ x 18). Parts B are then cut ($\frac{1}{4}$ x 2 $\frac{3}{8}$ x 24) and joined to part A. Fasten with glue and three countersunk wood screws. The two parts must be joined at exactly 90 degrees, so use care here. Part C ($\frac{3}{4}$ x 2 $\frac{1}{2}$ x 6) can now be cut and joined in the same manner. Next, locate and drill two $\frac{3}{8}$ " dia. holes for thread inserts (available from The Woodworkers' Store, 21801 Industrial Blvd., Rogers, MN 55374). Teenuts, fastened from the bottom, can also be used here. Cut part D to width (3 $\frac{1}{2}$ ") and length (6"), then cut a 5/16" wide by 2 $\frac{1}{2}$ " long slot as shown. A 1" long screw and washer completes the jig.

To use, first equip the router with a 1-1/16" (or smaller) template guide bushing (sold by Sears). The 1-1/16" bushing will take straight router bits up to $\frac{3}{4}$ ". The bushing goes between the B parts and bears against one of them. Either of parts B can be used as



in mind which one you've chosen before orienting the jig on the workpiece. Clamp the jig in place after it's been properly located, then adjust part D to stop the dado where desired. As designed, the jig can stop the dado up to 1 $\frac{1}{2}$ " from the edge (with a $\frac{1}{4}$ " bit and a Sears router). When used, the template bushing is held against part B as the router is moved from back to front until it hits the stop. If the dado is to be stopped on both ends, clamp a piece of scrap stock across parts B to serve as the second stop.



Classified

The Classified Rate is 75¢ per word, payable with order. Minimum ad is 15 words. Send copy and check to **The Woodworker's Journal**, Classified Dept., P.O. Box 1629, New Milford, CT 06776.

Craftsmen-show pride in your fine work. Personalize your pieces with engraved solid brass plates. Send \$1.00 for 2 line sample plate. VB, Dept. WJ, 807 East Dana, Mountain View, CA 94040.

Clock plans-Make handcrafted clocks for gifts or profit. 6 plans \$4.00. Kent Anderson, 219 Beedle Dr., Ames, IA 50010.

Musical Photo Album, unusual gift, easy to make plans. Send \$3.00, D. Tennant, 314 Hwy. 7, Powhatan, OH 43942.

Framing Pictures? Cut your own mats, perfectly! Double; V-Groove; 3-D; Inlay. How to make and use mat cutting board, \$6.95. Hawleys, 47-J Grace Circle, Marlboro, MA 01752.

Patterns for Ten Different Wooden Toy cars, \$3.00. Franks (WJ-4), 1202 S. Second, Booneville, MS 38829.

Dads & Grandpas, Wooden Toys are better. List of plans \$1.00. Woodbutcher's Toys, Box 514, Leslie, MI 49251.

Fine Cabinet Plywood. Cut sizes-full sheets. Many species and thicknesses. Free catalog! Plywood Depot, Box 897, Gaylord, MN 55334.

45 Plans Catalog: Barns, Outstanding styles, many sizes. Garages/workshops, outbuildings, homes. \$3.00 (\$5.00 plan refund). Ashland Barns, 990W Butlercreek, Ashland, OR 97520.

Do-it-Yourself. Make your own wooden toys. 25 designs, full size patterns. For brochure send SASE to W & R Jenkins, Box 812, Culver City, CA 90230.

Carbide Blades, Router Bits. Free catalog. Blair Industries, 21111 W. Wagar Circle, Rocky River, OH 44116.

Over 75 Patterns! Enjoy profitable wooden gifts, toys, household accessories. Plus "Shop Secrets". Only \$5.00. Accents (J-91), Box 262, Danvers, MA 01923.

Patterns for Nine Different Wooden toy "Hot Rod" cars. \$3.00. Franks (WJ-4), 1202 S Second, Booneville, MS 38829.

Perfect gift or sale item. Plans sent by return mail for first-time-offered unique 36 piece interlocking puzzle-truck. \$5.00. Visa, Mastercharge. Paul Prebor Woodworking, 1446 N. Wabash Avenue, Lakeland, FL 33805.

Work Green Wood into bowls, tables, lamps, etc., crack-free with amazing PEG treatment. Catalog of supplies, books, project ideas. Send \$1.00. Spielmans Wood Works, 188WJ Gibraltar Road, Fish Creek, WI 54212.

Distributor Closeout-New American Dental cutters-6 for \$2.00 postpaid. PAC Industries, Box 24, Warren, MI 48090.

Woodworkers Make Money when they learn from "The Woodworker's Money Book." Covers how to sell retail and wholesale, pricing, credit, labeling, much more. Money-back guarantee. Mailed first class for \$3.00. Inprint, Box 687, Farmingdale, NJ 07727.

Patterns for Six Piece Wooden Toy Steam train, \$3.00. Franks (WJ-4), 1202 S. Second, Booneville, MS 38829.

Hardwoods for Sale. Oaks, Walnut, Cherry, etc. Red Oak FAS, 25 ft. only \$1.15 rough, \$1.20 planed. Catalog \$1.50. Kountry Kraft Hardwoods, Box 141 Rt 1, Lake City, IA 51449.

Plans wanted for sconces, wall shelves, lamps, clocks, mirrors, music boxes, and woodworking items. Woodcraft, 2127 Brown St., Davenport, IA 52804.

Catalog of wooden toy patterns, wooden toykits, and toymakers supplies. Send \$1.00 to Toy Designs, P.O. Box 441-N, Newton, IA 50208.

Personalize your craft work. Send \$2.00 for sample brass plate. Fraley's, 31-WJ South Main, Winchester, KY 40391.

Miniature Furniture Patterns. Dollhouse plans. Basswood, hinges, tools, books, accessories, wallpaper & flooring. Catalog \$1.00. Green Door Studio, Dept. WJ, 517 E. Annapolis, St. Paul, MN 55118.

ROK-A-ZOO™ Full Size Patterns of 6 different rocking animals that you can build with total satisfaction to create a supreme quality rocking animal to last for generations. For illustrations send \$1.00 (refundable) to Frechette's Heirloom Toys, P.O. Box 4567, Spokane, WA 99202.

Free Toy Pattern price list, unique, wide variety, SASE. BAS, 3056 Oneida, Saugquoit, NY 13456.

Custom service for your project-no stock plans. If you have talent but not experience, time, or equipment, we can provide: working drawings, details, full size patterns, material lists, pre-cut parts, or partial assemblies. Send your idea or a picture and SASE for a quote. Yesterday's Yankee, Lakeville, CT 06039.

Woodworkers! Flea Market Specials! 8 full-size patterns for car and trucks from scrapwood. Send \$3.00 to Tubecity Graphics, P.O. Box 322, Milton, MA 02186.

Wooden Toy Plans. Simple Hand Tool Projects-truck, bulldozer, train, engine, car. Send \$2.00, Turner Toys, Rt 1 Box 48, Colt, AR 72326.

Catalog of Wooden Toy Truck Patterns, \$1.00 refundable. Franks (WJ-4), 1202 S Second, Booneville, MS 38829.

Save on Sanding Belts & Disks, keep them clean for faster sanding & 4 times longer life. Gum sanding belt cleaner, 3½ x 3½, apron pocket size. \$3.50 + 50¢ handling. E.L.T., P.O. Box 68111, Indianapolis, IN 46268.

Stainless Steel and Brass, Screws and bolts. Small quantities, free catalog. Elwick, Dept. 423, 230 Woods Lane, Somerdale, NJ 08083.

Sconces, Candleholders, ten different plans and ideas, \$5.00 to Something Different, Dept. WJ, P.O. Box 16304, Winston-Salem, NC 27105.

Drawings for woodworker's weekend workbench (42" x 27½" x 30") with 2 pipe clamp vises. If you liked our weekend toys, you will like our weekend workbench. Send \$2.00, Weekend Enterprises, 12342 La Barca, San Antonio, TX 78233.

Patterns for Five Different Wooden Toy truck & trailer sets, \$3.00. Franks (WJ-4), 1202 S. Second, Booneville, MS 38829.

Do-it-Yourself. Build a 20 inch Jig Saw. Plan or complete kit. For information send SASE to W & R Jenkins, Box 812, Culver City, CA 90320.

Foldaway Firewood Rack, holds ¾ cord or build to needs. Optional roof, indoors or outdoors. Plans \$3.00. JAH, Box 10 A, Elizaville, NY 12523.

Woodcarvers Patterns: Three dimensional ducks (decoys), shorebirds, animals, fish, etc. SASE to Long's Easy Patterns, Box 22155h, St. Louis, MO 63116.

Banjo and Mandolin Kits: Beat the incredible prices of finished instruments by building your own from our well-known quality kits. Free information, write Stewart-MacDonald, Box 900J, Athens, OH 45701 or call toll free 800-848-2273.

Rustic, Country Mirror Plans and ideas. \$100.00 profit from a single board. \$3.00. James Fite, Rt 3 Box 441, Shelby, NC 28150.

Cabinet-Spacious, sturdy, attractive jewelry cabinet. Six drawers and necklace compartment with revolving hanger. Easy to follow plans \$3.00. Fred Faust, Box 3688, Laureldale, PA 19605.

Woodcrafts. Veteran Craftsman has experienced \$1000 crafts shows, will send plans for 6 best selling wood items for \$5.00. Bennett Wood Products, Rt 8, Box 680-S, Pensacola, FL 32506.

Moving?

You must inform your Postmaster if you want your copy of *The Woodworker's Journal* forwarded.

To insure that you will not miss an issue, please send us the latest mailing label along with your new address, at least six weeks before we publish.

We publish a week before the beginning of the month shown on the cover. Thus the March/April issue is published on the 22nd of February.

Shop Notes