25TH ANNIVERSARY ISSUE

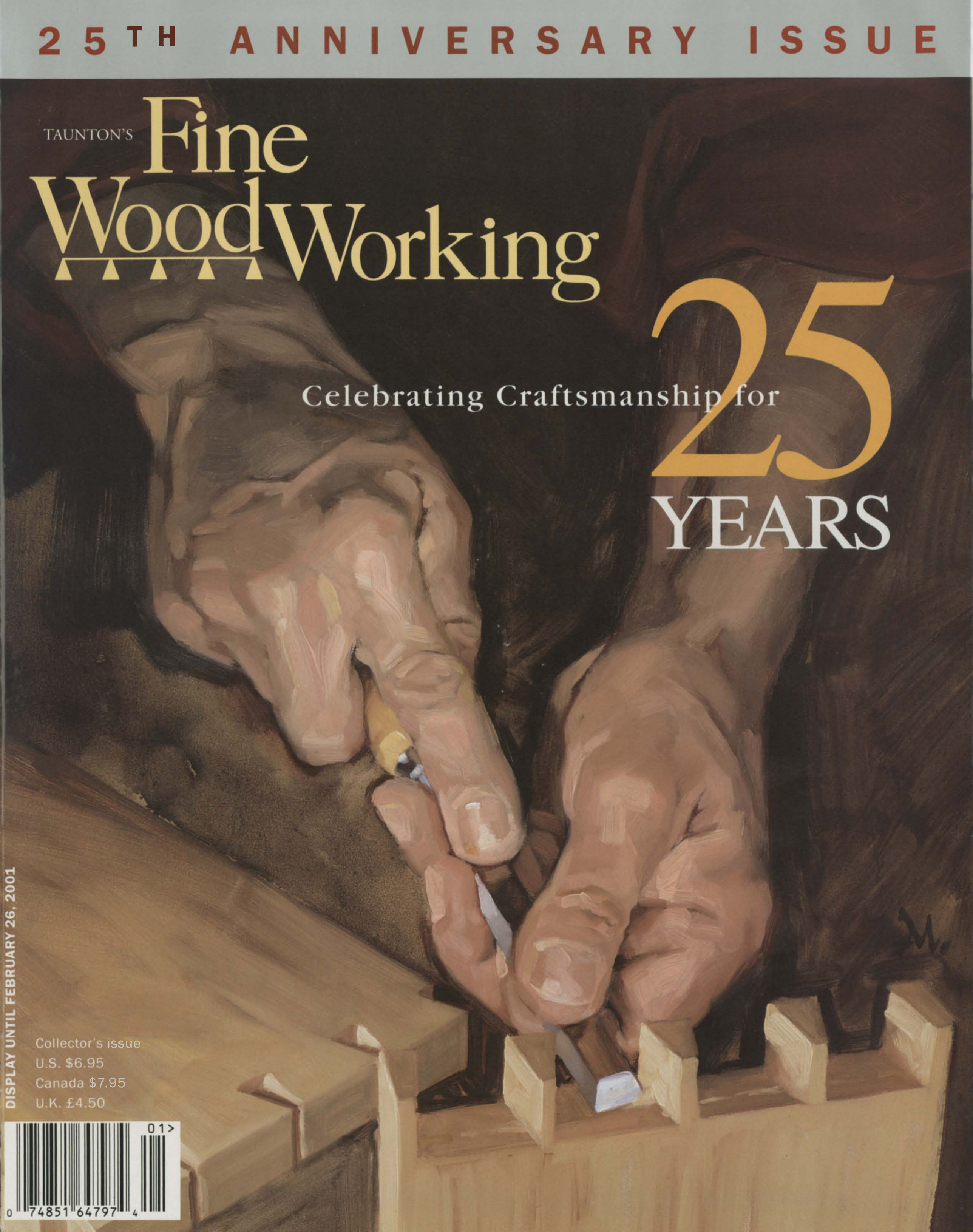
TAUNTON'S

Fine WoodWorking

Celebrating Craftsmanship for

25

YEARS



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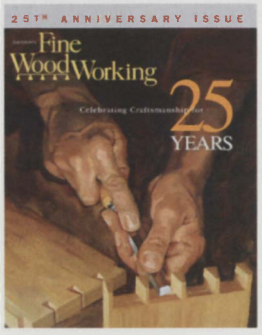

ON THE COVER:

Fine Woodworking *celebrates 25 years of craftsmanship with this special issue. For the occasion* ***Gregory Manchess*** *painted a classic image of a woodworker cutting dovetails by hand.*

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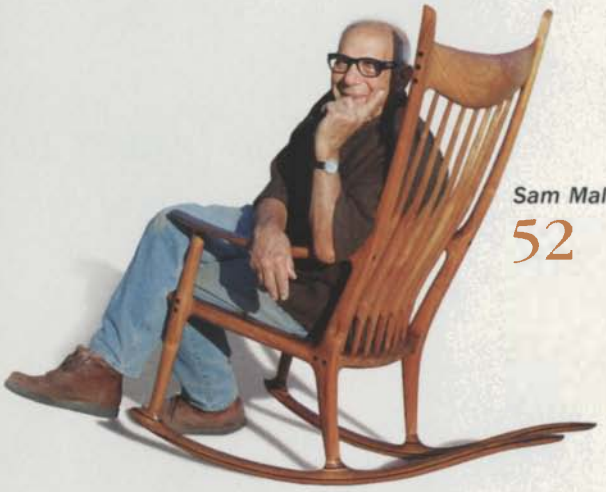

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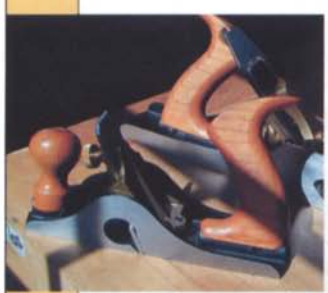

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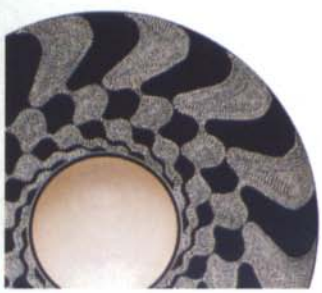

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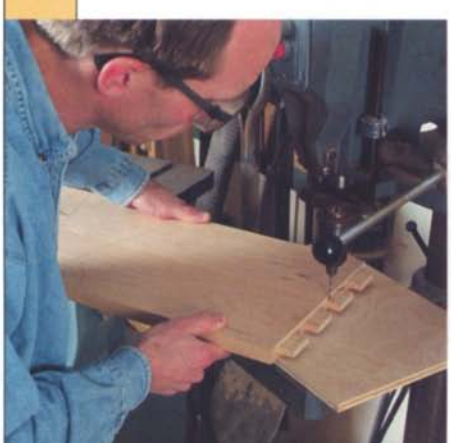

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Visit **www.finewoodworking.com** *for more First Person essays, more on Tage Frid, Sam Maloof and James Krenov as well as additional information on our 25th anniversary.*

Founder's Note

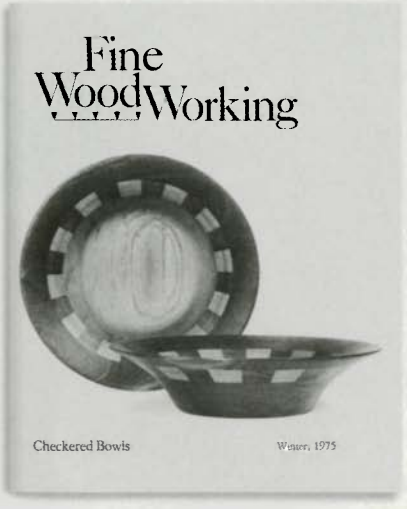
In the mid 1960s, I may have been one of the few people in the country who seriously considered leaving a corporate career to become a full-time woodworker.

But as time went by, I discovered more and more people like me, who had a passionate interest in the craft and who shared my dream of spending more time in the woodshop than at the office. I discovered also that we shared a frustration with the lack of really good information about woodworking. Aside from a few books on period furniture and the standard industrial arts textbooks, there just wasn't much out there—no place to turn for in-depth, up-to-date information and for strong doses of fresh inspiration.

So sometime in early 1975, I revived an idea I had several years earlier: starting a woodworking magazine. I envisioned a magazine that would help woodworkers get a strong grounding in the technical traditions of the craft and at the same time get acquainted with the best examples of contemporary craftsmanship and design. My original plan was pretty modest—a quarterly, all black-and-white, stapled-spine magazine, with an emphasis on real information from the best woodworkers around. This meant I had to start traveling all over the place to find out who these woodworkers were and to convince them to write for a magazine they had never heard of. One encounter led to another, and before long I realized what a huge, almost hidden wealth of knowledge, experience and talent there was just waiting for someone to make known.

Tage Frid, Jere Osgood, Bill Keyser, R. Bruce Hoadley, Alphonse Mattia, Robert Whitley and Andy Marlow are just a few of the many names that come to mind from those early days of the magazine. Soon the pages of *Fine Woodworking* became the place where these hugely accomplished craftsmen and their peers could share what they knew with a rapidly growing group of woodworkers. Discovering and tapping into this vast resource of knowledge and then publishing it to satisfy an equally vast thirst for information made for the most exciting time of my life.

From the beginning, *Fine Woodworking* was a joint venture. My job was to create the magazine and all of its promotional materials. My wife, Jan, agreed to handle the business side of things—all the circulation, customer service and advertising. In September 1975, we emptied our savings account to pay for the first mailing to



prospective subscribers. And then we waited to see what would happen.

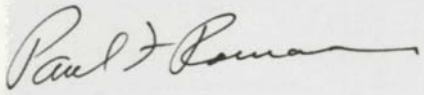
Three weeks later we found ourselves having to enlist our children, our friends and neighbors to open the thousands of envelopes and to process the orders. And I figured I'd better concentrate on getting the first issue of the magazine out the door. Jan and I had already made some important strategic decisions.

We knew that our readers would come first. This led to a decision to keep adver-

tising separate from the articles and to accept only those ads that were directly related to the practice of woodworking. These restrictions made selling ads tough in the early years, but before too long the advertising pages of *Fine Woodworking* became a robust marketplace where companies large and small, new and old could reach enthusiastic woodworkers who were actively searching for tools and materials. Jan and I are very proud that we've been able to play such a formative role in the tremendous growth of the woodworking community.

So here we are a quarter century later, and the craft of working wood in America has emerged from near secrecy in the 1960s to mass-media coverage in the new millennium. TV shows, a dozen magazines, hundreds of videos and countless books all chronicle and present every aspect of woodworking, from making router jigs to carving Tudor roses. And now the web promises to add even another dimension to creating and publishing information about woodworking.

Looking forward to the next 25 years, I see our greatest challenge in harnessing the Internet and its developing capabilities not only to serve the community of woodworkers with a far richer offering of knowledge and inspiration but also to bring the people in this community closer and closer together.



Fine WoodWorking

#146 Winter 2000/2001

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Contributors

One of the qualities that distinguishes *Fine Woodworking* from other publications about the craft is the fact that its information comes directly from the experts. Beginning with the first issue, the magazine has been written entirely by its woodworker readers. Although we have had our share of well-known authors, for the most part our contributors are not known outside their own communities. Many of them toil daily in one-man shops, producing custom furniture one piece at a time. Others work day jobs and perfect their woodworking skills evenings and weekends in basements and garages. All, however, share a passion for the craft and a willingness to pass their knowledge along to others. The authors in this issue are no different.

Nora Hall ("Wood Carving Has Been My Life") studied under her father, master European carver Johannes Leereveld, in her native Holland. She immigrated to the United States in 1956 and continues to teach carving at schools and seminars throughout the country. Hall now carves commissions with her son Wendel. She recently produced five videos on European carving (www.norahall.com). She is the mother of six children, including former professional basketball player Swen Nater, and now lives on the Oregon coast with her husband, Sam.

Richard Raffan ("The Resurgence of Wood Turning") has turned wood for a living since 1970. As a key figure of the wood-turning revival, Raffan has contributed to the development of wood turning as an art form and has been an instructor to many. Raffan has published four books, three with complementary videos. *Turning Wood* (1985) and *Turned Bowl Design* (1987), both published by The Taunton Press, are regarded as woodworking classics. A revised edition of *Turning Wood* and a new set of short videos will be available in March 2001. Raffan writes regularly for *Australian Wood Review* and *Fine Woodworking*.

Andy Rooney ("In My Imagination, All of My Tools Are Sharp") discovered his love of wood through a 12-ft.-long figured maple board he found in New York City just after World War II. "I had no tools and no use for it, so we hung it on the living room wall. It was the first wood I ever bought and the best wall decoration we've ever had." He penned the first of his television essays—"An Essay on Doors"—in 1964. He has won several Emmys as a CBS news correspondent, and is now in his 23rd season on *60 Minutes*. Rooney, who has also written 12 books, lives with his wife, Marguerite, in Rowayton, Conn.

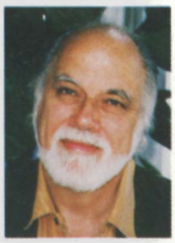
The cover of this 25th-anniversary issue is sure to be a collector's item, thanks to **Gregory Manchess**, who painted a timeless image of a woodworker's well-worn hands cutting dovetails. A self-taught artist and illustrator, Manchess has done freelance work for a variety of magazines, including *National Geographic*. He has won numerous awards over the years for his work, and in 1999 he was given the Hamilton King Award, a kind of lifetime achievement award for artists. Manchess lives and works in Portland, Ore.

Jon Arno ("Why certified wood will not save the rain forests") is a writer and has been a lifelong avid woodworker. He has written more articles for *Fine Woodworking* than any other individual. And as the long record of his contributions makes clear, Arno has maintained a love affair with some of our lesser-known domestic hardwoods, and many of his articles have been aimed at enticing readers to experiment with them. Almond, beech, catalpa, elm, pear, plum, persimmon, sassafras, sweetgum and sycamore are some of the many woods he has profiled in these pages.

Scott Landis ("Why I support forest certification") began his involvement with woodworking in the 1970s, when he built log cabins in Maine and Ontario. After that he also made snowshoes, canoes and paddles, and a number of different workbenches (as an exploratory business venture). His experience building workbenches led him to write two books published by The Taunton Press, *The Workbench Book* and *The Workshop Book*. These days Landis devotes most of his time to writing, editing and photography; but he just finished building an adjustable workbench for his 4-year-old son.

After attending Boston University and serving in Vietnam as an Army photographer, **Hank Gilpin** ("Professor Frid") enrolled to study photography at Rhode Island School of Design (RISD). Spending one day in Tage Frid's woodworking class convinced him to switch majors. He's been making furniture ever since, working out of his home shop in a converted church in Lincoln, R.I. He first wrote for *Fine Woodworking* in issue #6.

Graham Blackburn ("A Short History of Design") grew up in London where his grandfather was a cabinetmaker and his father a builder. He came to the United States in the mid 1960s to study composition at the Juilliard School of Music and then moved to Woodstock, N.Y., where in addition to continuing his music career—recording his own music and playing with Van Morrison and Maria Muldaur, among others—he built his own house and began designing and building custom furniture. He has since written and illustrated more than a dozen books on many aspects of woodworking. Besides furniture making and teaching, he now runs Blackburn Books (www.blackburnbooks.com).



Allan Boardman ("Sam Maloof") spent four decades as an engineer and executive in the aerospace field, but his lifelong passion has been making furniture, teaching woodworking and

writing on the subject. In addition to full-scale woodwork, he has long been involved with the Lilliputian end of the craft. This began during his college years, at MIT, when he made miniature carvings in his dorm room—a ball-in-cage, for example, from a toothpick. His current passion is for making wooden puzzles, particularly ones on what he calls a "micro" scale, with parts as small as 0.02 in. by 0.02 in. by 0.06 in.

A native of Philadelphia, **Jonathan Binzen** ("The First Years of *Fine Woodworking*") worked there as a furniture maker in the early 1980s and then taught woodworking in a program for refugees. He lived for several years in Kuala Lumpur, Malaysia, where he taught English and worked in a Malay woodshop. Before going freelance as a writer and editor this year, he was for seven years an editor at *Fine Woodworking* and *Home Furniture*.

Roger Holmes ("Tools: Then and Now") started tinkering in his father's basement workshop after dropping out of college in the late 1960s. An interest in the English Arts and Crafts Movement of the late 19th and early 20th century led,

eventually, to his spending about half the 1970s in England. There, he worked in Alan Peters' Devon shop and for Pearl Dot workshops in London and began writing for *Fine Woodworking*. He worked full time at the magazine in the early 1980s. Since the early 1990s he has run WordWorks, a small publishing business that produces gardening books. He is the author of *The Complete Woodworker's Companion* (Watson-Guptil, 1996).

Ross Day ("A Krenov Student's Notebook") is putting the finishing touches on the home and shop he's just had built in Poulsbo, Wash., a half-hour ferry ride across Puget Sound from Seattle. He's been making custom furniture in the Seattle area for 21 years, primarily working on commission but also selling work through Seattle's venerable Northwest Fine Woodworking co-op store and Long Island's Pritam and Eames gallery. Outside the shop, his interests run to architecture, sculpture and jazz.

Letters

CELEBRATING 25 YEARS

A solitary craft shared by many

Listen to woodworkers talk about woodworking, and often you will hear their unfiltered criticism of another's work or approach to woodworking. Read the letters in this magazine (some of our favorites from the last 25 years follow this note), and you will feel the harsh blast of righteous indignation. But ask that same person for help with a woodworking problem, and you will receive a courteous and patient education that would cost dear money at a school. After the passion for woodworking, sharing our knowledge is the one characteristic that makes a community out of all the people who do this thing we love to do.

For 25 years this magazine has been proud to help woodworkers pass on their incredible knowledge to others in the community. It is not only a role we play; it also is the essence of the magazine from cover to cover. Whether a tip on tablesaw safety in Methods of Work, a Q&A answer on how to fold a bandsaw blade, a Master Class on carving a Newport shell or the thousands of other featured techniques and projects, everything in our 146 issues has been written by a woodworker willing to share what he or she knows with others who have the passion for the craft. It is this culture of giving that makes our readers so aggressively loyal, and that makes putting out the magazine so fulfilling for those who work here. Just like the rest of the woodworking community, the magazine staff can't wait to learn from the articles and get into the shop to make something beautiful out of wood.

People tell us that having a complete collection of *Fine Woodworking* magazines is like having an encyclopedia, an apprenticeship and a college curriculum all on one 4-ft.-long shelf. It is like having a knowledgeable woodworking buddy at arm's length. As you read this special issue, or any of the 145 that preceded it over the past two-and-a-half decades, you will marvel at the depth of knowledge, the generosity and the diversity of the members of this special community. It has been, and continues to be, our privilege to be a part of it all these years.

–Timothy D. Schreiner, editor

The Best Letters

Woodworkers might be a quiet lot, but when it comes to what they see in a woodworking magazine, they are not shy in expressing their opinions to the editor. Here are some of our favorite letters from the past 25 years. Some have been edited for brevity or clarity.

The debates over "real" woodworking started early—It seems to me that most of the readers of your magazine are probably pretty good woodworkers. This being the case, maybe the focus of your efforts should be on matters of design and form, rather than on techniques of construction.

A design must not violate the material. That is, wood has a grain and a structure which must be taken into account when designing a piece. The spiral steps in issue #2 are a case in point. There is no question of the beauty of this design. But wood is the wrong material—this piece could not possibly have been made of a single piece, and the complicated lamination that was done means that we do not really have a wood piece; we have a piece made of wood and glue, and it will last only as long as the glue does. Yet, this would be a magnificent object if cast in aluminum or bronze and polished to the same sleek curves. It is simply not right in wood.

–John S. Carroll, Emlenton, Pa.
FWW *#4 (Fall 1976)*

I disagree in all points with the letter from John Carroll. Design, art, taste: It is all so much a part of one's heritage, education or circumstance that to criticize so vehemently the designs shown in the magazine is entirely out of line. Mr. Carroll misses the point of the whole thing, and that is to acquaint readers of varying talents with different techniques and bring to them information not available anywhere else.

–John Romary, Littleton, Colo.
FWW *#5 (Winter 1976)*

Crayons, nails: adolescent nonsense—The back cover of *FWW* #24 [showing a cabinet in which Garry Bennett drove a nail in the door (see the

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cabinet on p. 114 of this issue) and a writing tabletop on which Wendy Maruyama squiggled with crayon] should simply have been titled "Desecration." Trying to achieve self-expression in wood using nails and crayons, both craftsmen have fallen seriously short of any ideals or concepts of fine woodworking and have demonstrated a complete lack of any spiritual relationship with the wood.

–Michael Perrin, Knoxville, Tenn.
FWW *#26 (Feb. 1981)*

Shame on you for using your back cover to promote such adolescent nonsense. To ruin a piece of furniture with crayon or nails and render it unsellable only displays egotistical immaturity on the part of the craftsman.

–Henry Intili, Jasper, N.Y.
FWW *#25 (Dec. 1980)*

Who would want Wendy Maruyama's writing table? Who cares if it has a scribble and painted images? Bennett should have realized that an ax would have made his cabinet more distinctive than a nail. I wish I had his talent, with less of his imagination. Too many people are trying to be different by being silly.

–Henry Fisher, Columbus, Ohio
FWW *#25 (Dec. 1980)*

WENDY MARUYAMA REPLIES: I have chosen to use wood in a different context and find it exciting to use other materials with the wood. It is my freedom of choice to do what I feel satisfies my personal motivations to use my hands and make a piece of furniture. Yes, my work is a means of personal expression. That is what gives furniture its character. What I do to decorate my furniture is not any different from the early painted chests of the 1700s or the claw-and-ball feet of Chippendale chairs—it's all a form of embellishment.

FWW *#27 (April 1981)*

Color comes to *Fine Woodworking*—I couldn't believe the first color issue (*FWW* #48) would feature a painted chest on its cover. Ladies and gentlemen, are there no woodworkers among you? I don't paint the violins I build! What's wrong with the color of fine wood? The black-and-white cover had dignity and class. Do I sense a hint of *Fine Woodworking* trying to appeal to the mass market of the home artsy-craftsy movement? A painted chest? You gotta be kiddin'!

–Robert P. Deason, San Diego, Calif.
FWW *#49 (Dec. 1984)*

Let's give everyone a break—I drool over each issue and especially enjoy the readers' input. Without that, it would be lacking a certain flair. But I've come to one realization while reading the numerous letters: Simply, woodworkers are egotistical, pompous snobs. It seems someone is constantly criticizing someone else's work, as if they invented the trade. Constructive criticism is understandable, but these people are butchers. Come on, guys, let's give one another a break, or at least the benefit of the doubt. No one woodworker knows it all.

–Gary Windish, Marion, S.D.
FWW *#72 (Oct. 1988)*

Which came first: bad clothes or bad woodworking?—How come it seems that all of the woodworkers pictured in your magazine have a slightly stupid expression, a bit of a pot belly and wear terribly tasteless clothes? Since this description fits me somewhat, I would like to know—does the craft make people like this, or do people like this do the craft?

–John Kennaugh, San Francisco, Calif.
FWW *#95 (Aug. 1992)*

A thought on the value of quality—I have been following the exchange of views between suppliers and buyers of Taiwanese power tools with some amusement. Having had my own mixed experiences with some of these tools, I would like to contribute the following paragraph, attributed to John Ruskin (1819-1900) more than a century ago:

"It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money—that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot—it can't be done. If you deal with the lowest bidder, it is wise to add something for the risk you run, and if you do that you will have enough to pay for something better."

Some things never change.

–Paul A. Martin, East Aurora, N.Y.
FWW *#116 (Feb. 1996)*

Title limits the magazine—As far as I'm concerned, *Fine Woodworking* puts entirely too much emphasis on the first word of its title. The magazine lacks the diversity that marked its early years when it contained articles about wooden bridges, toys and the like.

My tastes in furniture and woodworking projects are simply not the same as yours. I wouldn't allow a Philadelphia highboy, Windsor chair or piecrust table into my house unless you held a gun to my head.

–Michael Bitsko, Santa Cruz, Calif.
FWW *#123 (April 1997)*

Woodworking needs beginners—The letter in issue #120 that criticized those who want more details and "lead-us-by-the-hand" articles is a perfect example of one of the main problems of learning a new hobby or craft—the small number of mean-spirited, elitist twits who feel the need to lord over the novice and beginner with their supposed superior skill or experience.

Only a fool would belittle a beginner. Every hobby needs new blood, or it cannot thrive and grow. One elitist could chase away many an ardent beginner. I will continue to press on in learning woodworking and asking silly questions and, someday, maybe I can lead a

About your safety

Working wood is inherently dangerous. Using hand or power tools improperly or ignoring standard safety practices can lead to permanent injury or even death. Don't try to perform operations you learn about here (or elsewhere) until you're certain they are safe for you. If something about an operation doesn't feel right, don't do it. Look for another way. We want you to enjoy the craft, so please keep safety foremost in your mind whenever you're in the shop.

–Timothy D. Schreiner, editor

beginner into woodworking with a gentle hand and not a barbed tongue.

–Peter Harris, Brookfield, Ill.
FWW *#122 (Feb. 1997)*

EDITOR'S NOTE: Our reader surveys indicate that *Fine Woodworking* has roughly equal numbers of beginning woodworkers and full-time professionals.

Another surgeon; another woodworker—Orthopedist E. Jeff Justis is not the only surgeon to note the similarities between his vocation and avocation. In my parallel careers as general surgeon and woodworker, I have sometimes borrowed from one to solve problems in the other. His answer to "Why woodworking?" is the same as mine: It doesn't bleed, and it doesn't sue. But I always add that it never calls in the middle of the night.

–Robert M. Richter, Brooklyn, N.Y.
FWW *#133 (Dec. 1998)*

The debate over Norm—Norm Abram may be a superstar in the realm of television woodworking, but he does not belong on the cover of a publication that calls itself *Fine Woodworking* (*FWW* #99). His almost total rejection of any hand-tool usage and his complete insensitivity to the fine points of wood finishing are the only things that are truly extraordinary. Norm's only appeal lies in his peculiar ability to balance a router in one hand and a can of polyurethane in the other.

–Mario Scarpy, Chicago, Ill.
FWW *#101 (Aug. 1993)*

A reformed woodworking elitist—I have been a self-employed woodworker for the last 15 years and have been reading your magazine since it first came out. I am compelled to write about the letters you published regarding Norm Abram on the cover of *Fine Woodworking* #99.

In all the years that I have been in the custom woodworking game, I have yet to find a more closed and narrow-minded group of people than hobbyist woodworkers. These letter writers represent an elitist, snobbish view that is pervasive in this part of the woodworking world.

Norm Abram's show has made woodworking accessible to thousands more people than these letter writers could ever hope to affect with their hobby-shop mentality. As a reformed woodworking elitist, I have some words of advice for anyone interested in learning more about this craft. Woodworking is not organized religion. *Fine Woodworking* is not the Bible. Krenov, Frid and Maloof are not saints. Anyone who ever did something different from you can teach you something if you are open to learning.

If you think you know all there is to know, I suggest that you get your own show or magazine going. You could call it Superior Woodworking or Really Righteous Woodworking or something equally wonderful. In a few years, you might even have hundreds of devout followers that think just like you.

–Steve Casey, Agoura Hills, Calif.
FWW *#102 (Oct. 1993)*

another Revolution...

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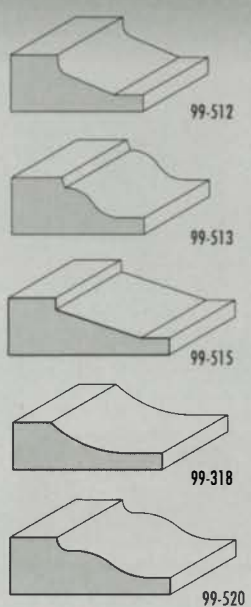
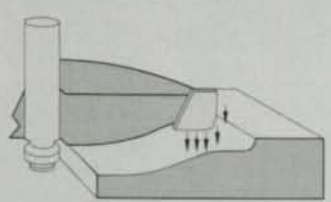
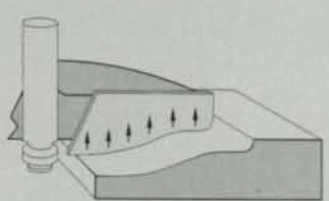


Other profiles available.



The small wings cut downward on the wood fibers to shear the top edge off for a perfect splinter free edge.



The large wings shear upwards for a perfect finish on the raised panel profile.

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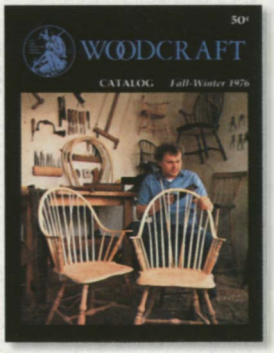

publications. And we've grown to become one of the world's largest suppliers of fine woodworking tools through our catalog, website and nearly 60 stores across the country. As exciting as the past 25 years have been for both of us, one thing is for sure – the future looks even better. Congratulations *Fine Woodworking* on 25 years of quality publishing.

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Methods of Work

EDITED AND DRAWN BY JIM RICHEY

The 25 Best Tips from Methods of Work

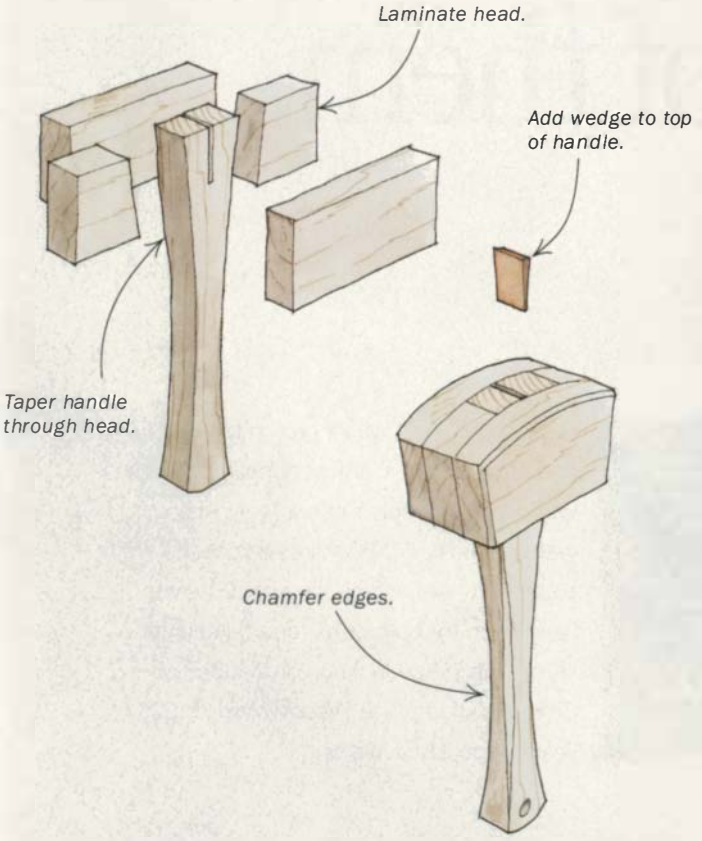
Since Methods of Work first appeared in issue #5 (Winter 1976), our readers have made it clear that they enjoy this section of the magazine. Finding a cheaper, easier, faster and more efficient way of doing things seems to represent a universal pleasure for woodworkers. Jim Richey took over editing the items and drawing the artwork for Methods with the publication of issue #16 (May/June 1979), and he's been doing it ever since.

Richey's association with *Fine Woodworking* came as a labor of love. He had another career, until he retired last year, working for 27 years in a number of information technology jobs at Conoco, an oil and energy company.

Except for one painting course in college and one shop class in high school, his drawing and his woodworking skills are all self-taught. Now that he's retired, he spends a lot of time in his shop at home in Oklahoma and working on his vacation home in Colorado.

To celebrate this special anniversary issue, Richey pored through past issues and chose 25 of his favorite tips and redrew all of the artwork in color. In cases in which the original text or drawings were not as clear as we felt that they could be, we made changes accordingly. Some of these tips are classics that will continue to save generations of woodworkers time and money.

Wooden mallet

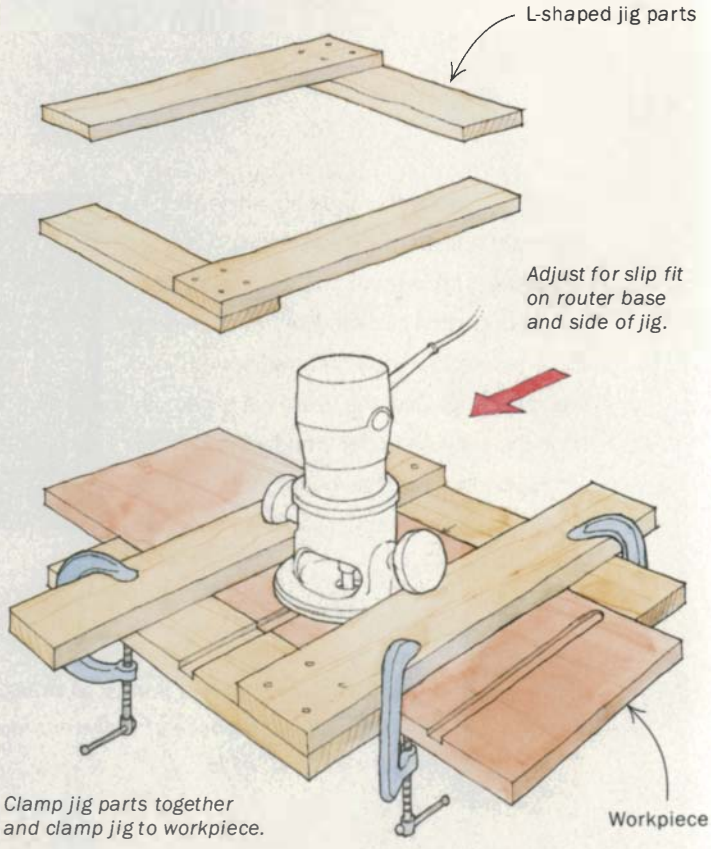


***FWW* #21** At least one wooden carpenter's mallet belongs in every woodworker's tool chest. The advantages of wood over steel are obvious—less damage to tools, work, thumbs and eyes. For the price of one steel hammer, you can make a dozen mallets, each tailored to a particular job.

The traditional mallet has a solid-wood head mortised through for the wedge-shaped handle. My laminated head design (above) is just as strong and much easier to make. Begin by cutting the handle and two center laminations for the head from the same 1-in.-thick board (this saves a lot of fitting later). Copy the handle's wedge angle (no more than ½ in. of taper) onto one of the side laminations. Then glue up the head, aligning the center laminations with the wedge-angle pencil lines. When the glue has cured, bandsaw the head to shape. Then chamfer all the edges to reduce the chances of splitting and insert the handle.

—Daniel Arnold, Viroqua, Wis.

Jig for cross-grain routing



***FWW* #17** The concept is simple, but this jig is indispensable for routing dadoes in carcase sides, especially when several dadoes

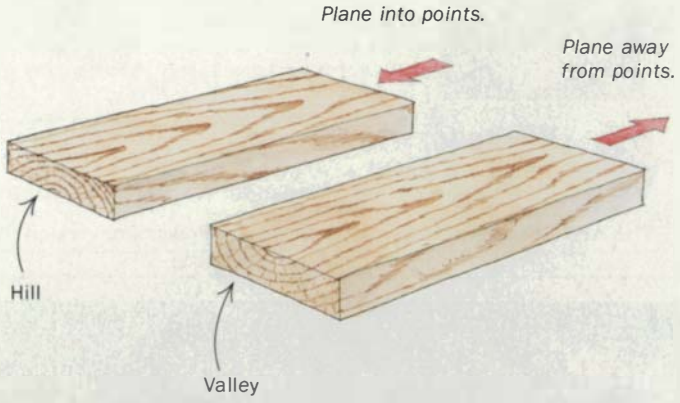
are to be made in one board. Once the jig is clamped together, you can slide it quickly into position for the next cut.

Make up two L-shaped pieces with 4-in.-wide plywood strips. Cut the shorter pieces of the L 16 in. to 18 in. long (router base plus 8 in. to 10 in.) and the longer pieces 20 in. to 30 in. long (widest carcase plus 8 in.). Face-glue and screw the pieces together, taking care to maintain a 90° angle.

To use, place one L on the front edge of the board to be routed and one on the back edge so that the two Ls form a woven rectangle (see the drawing on p. 24). Adjust both directions to give a slip fit against the router base and against the sides of the board. Then clamp the intersections of the two Ls. Pencil in an index mark on both sides of the jig to simplify lining up for a cut. Clamp the jig to the board before routing the dado.

—Roger Deatherage, Houston, Texas

Determining grain direction for handplaning



***FWW* #119** When handplaning boards, it is sometimes hard to know which direction to choose to avoid tearing out the wood. Checking the grain on the side of the board is a help, but that does not always tell the whole story. Here is an additional method that works very well.

Look at the end grain of the board. With flatsawn lumber you get one of two patterns: hills or valleys. Then look at the surface of the wood to see where the grain forms rounded points (called cathedrals). If the end grain is a hill, plane into the points. If the end grain is a valley, plane away from the points.

To help me remember the somewhat complicated directions, I think of an imaginary battle where a band of warriors charges up the hill and into the points of their enemy. The warriors retreat and run back into the valley with the enemy's points at their backs.

—Billy King, Oldhams, Va.

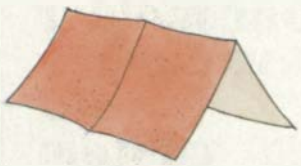
Cleaning sawblades

***FWW* #6** Oven cleaner works very well for removing pitch from router bits and sawblades without harming the steel. A clean-cutting surface stays sharp longer, gives better results, taxes the motor less and makes for safer use of the tool.

–Chuck Oliver, Fremont, N.H., and George Eckhart, Kenosha, Wis.

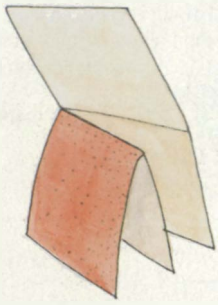
How to fold sandpaper

***FWW* #45** An old paint salesman showed me how to get the most out of a sheet of sandpaper. Fold the sheet in half in both directions. Then tear the sheet halfway through on the short fold line. Now fold up the sandpaper into a four-layer sanding pad.

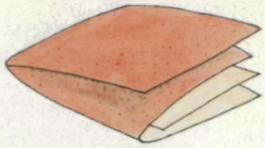


1. Fold sandpaper in half both ways.

2. Tear one side to centerline.



3. Tuck one side into other side.

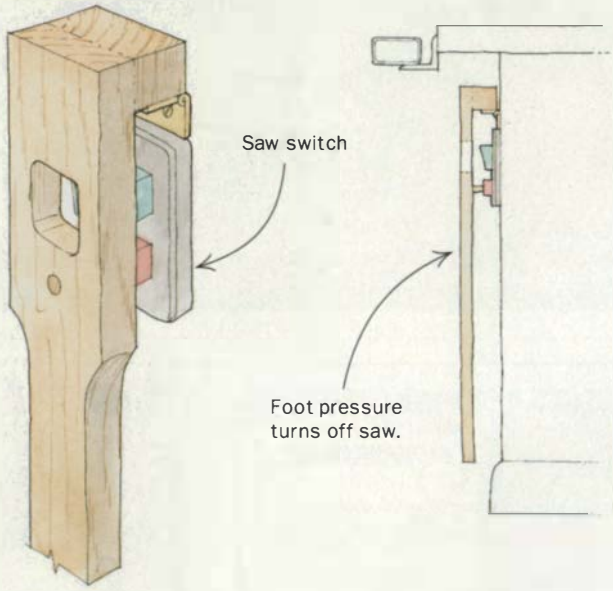


4. Completed pack. Sanding surfaces do not rub together.

The sheet can be refolded different ways to expose a fresh surface. None of the sanding surfaces rub against each other, which results in a longer-lasting sanding pad.

–Steve Chastain, Bellingham, Wash.

Foot switch for tablesaw



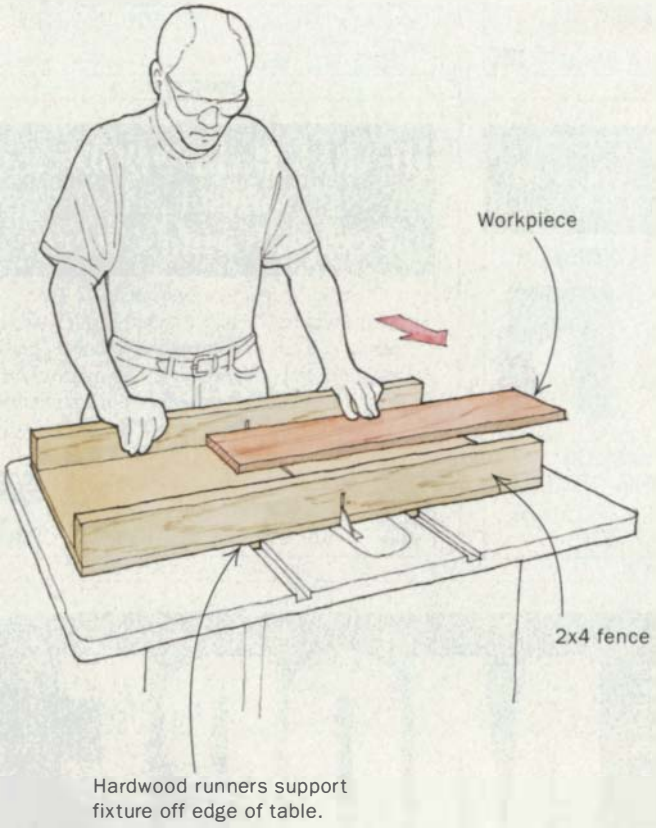
***FWW* #62** This foot switch is for those of us who, with both hands critically occupied on top of the saw table, have wished for a third hand to reach under the table and turn off the saw. I added the switch to my saw primarily for safety reasons but now find its convenience indispensable.

The foot switch is simply a hinged paddle that hangs down over

the saw's push-button switch box. I can turn off the saw by bumping the paddle with knee or foot—a short dowel located at just the right spot pushes the off button. A hole through the top part allows normal finger access to the on button and, in fact, offers some protection against the button being pushed accidentally.

—Eric Eschen, Chico, Calif.

Cutoff box

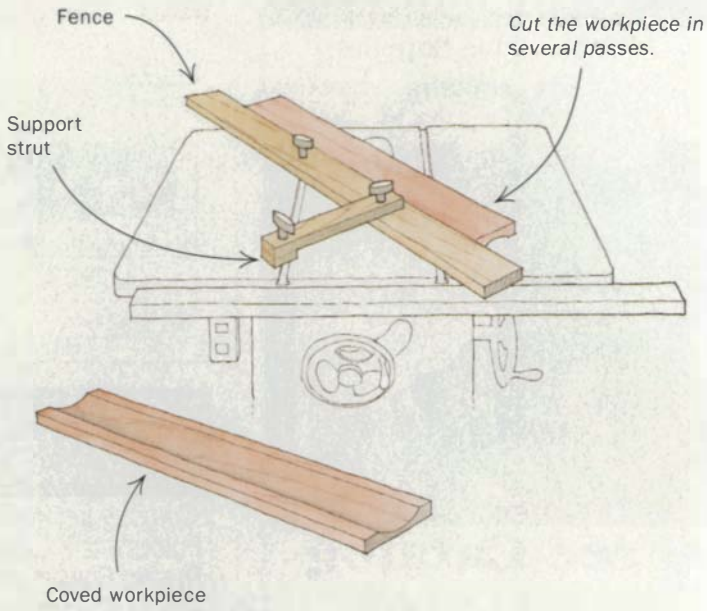


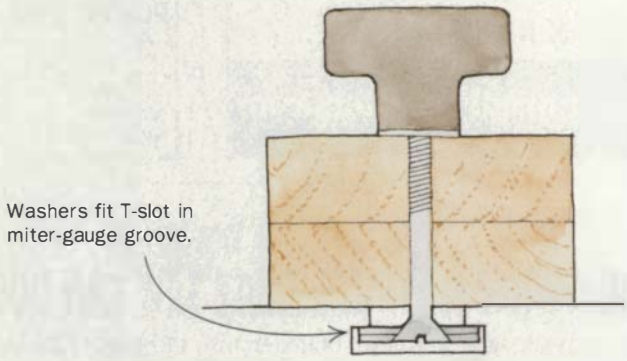
***FWW* #19** This easy-to-build box is superior to the miter gauge for simple 90° cutoff work on the tablesaw. Right-angle accuracy is built into the fixture; there's no adjustment necessary. Also, because the work is supported on both sides of the cut, there is none of the creeping that plagues cutoff work when you are using a miter gauge.

Although the size of the fixture is discretionary, I suggest you make it just a little smaller than the tablesaw top. For a typical saw this will give you room to handle work that's 18 in. to 24 in. wide. Make the bed from ⅜-in. plywood and the fences from 2x4s. Glue and screw the fences to the bed (avoid putting a screw in the path of the blade). Cut the hardwood runners so that they slide easily in the miter-gauge tracks and support the bed about ¼ in. off the table. Be very accurate in attaching the runners, and you'll always get a square cut. *—Jon Gullett, Washington, Ill.*

Cove molding on the tablesaw

***FWW* #126** If you cut lots of cove molding on your tablesaw, this fixture will certainly repay the time invested in making it. The fixture requires a T-shaped miter-gauge slot, which is found on most new tablesaws. To make the fixture, start by selecting a





flat washer that fits the T-slot. Countersink two washers to fit the head of a machine screw. The washers and screws will provide hold-downs for adjusting and locking the fence in place.

Select a clear, straight 1¼-in.-thick board for the fence. Assemble the fence and the support strut with the hold-downs and knobs, as shown in the drawing above. You can buy the knobs or make your own.

To adjust the fence, set the sawblade at the full height of the finish cut. Move the fence to the near side of the blade. With a second straightedge held just tangent to the far side of the blade and parallel to the fence, vary the angle of the fence until you get the correct width of the cove between the fence and the straightedge. Tighten the knobs to lock the fence in place, lower the blade until about 1/16 in. protrudes above the table surface, and make the first pass to produce a small concave cut. Make successive cuts raising the blade 1/16 in. on each pass until you reach the desired cove depth. *—Roy H. Hoffman, Oriental, N.C.*

Fixing jointer-knife nicks

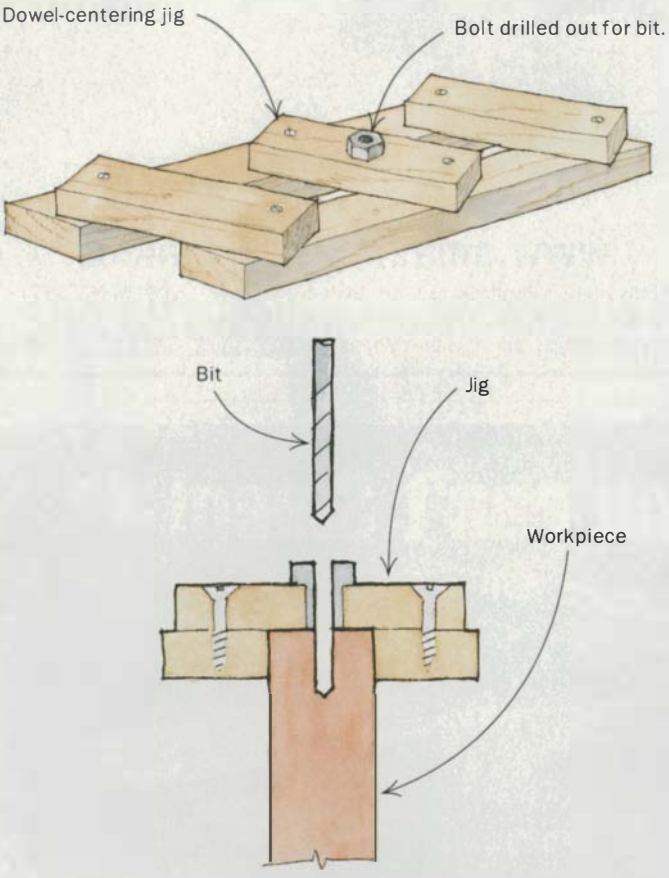
***FWW* #32** If your jointer knives get nicked as a result of hitting a nail or other obstruction, you can slide one knife a fraction of an inch to the right and another knife a little bit to the left. Leave the third knife in its original position. Because the nicks will be

out of line, the jointer will surface lumber as smoothly as it did originally. *—Eric Schramm, Los Gatos, Calif.*

Waxing saw tables

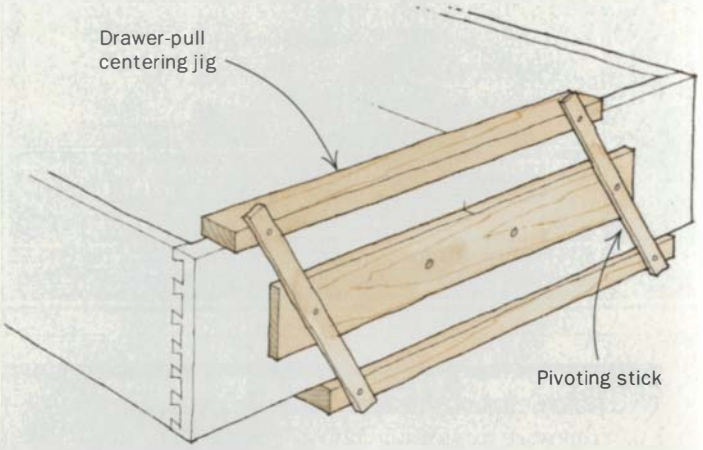
***FWW* #6** On all machine platens—such as saw tables and jointers, bottoms of planes, etc.—use a good car wax such as Simoniz, and you will be surprised by the results. Wood will slide and not stick, and rust will not form on the waxed surfaces in wet weather. I use it on all of my chisels and any tool that comes in contact with the wood. *—Ellis Thaxton, Arlington, Texas*

Center finders—three variations on a theme

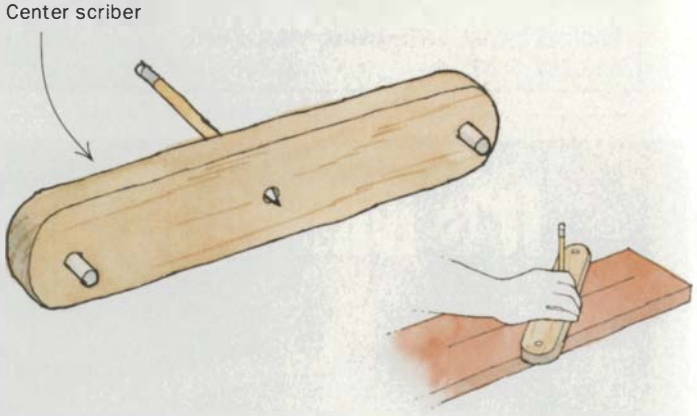


***FWW* #43** An old organ-builder friend showed me this handy homemade guide for center-drilling holes in the edges of boards to be doweled and edge-glued. The device consists of five sticks of hardwood screwed together in the configuration shown in the drawing above.

The sticks should pivot so that the device collapses like a parallelogram. For the drill guide, fit the center strip with a hex-head bolt ⅛ in. larger than the bit size. Then, using a drill press for accuracy, drill a pilot hole through the bolt using a bit one number larger than the bit you intend to use for doweling. To use, first align the edges of the boards and mark off the dowel locations with a square. To center the dowels, set the device to straddle each board's edge and squeeze the parallelogram shut. Then slide the device to each mark and drill. *—John Huening, Seffner, Fla.*



***FWW* #43** Shown above is a self-centering jig for boring drawer-pull holes. The pivoting sticks should be made long enough to span your deepest drawer. The center plate may be fitted with drill-bit guide bushings or just small holes for marking with an awl. *—J.B. Small, Newville, Pa.*



***FWW* #43** This old-time gadget is handy for center-scribing boards. Install dowel pegs at the ends of the device and drill a hole in the center for a pencil point. *—Larry Green, Bethel, Conn.*

Multiuse bandsaw auxiliary table

***FWW* #98** Ripping and resawing on the bandsaw is always a problem because of the natural tendency of each blade to lead the cut in a slightly different direction. The traditional method of compensation is to find the lead angle, mark a line on the table and then clamp a makeshift fence parallel to this line. The auxiliary table shown in the drawing on p. 32 improves on that solution by borrowing your tablesaw's miter gauge for ripping as well as crosscutting on your bandsaw.

I made my auxiliary table from a discarded laminated kitchen countertop, but a good grade of plywood would work just as well. Size it a little larger than the original table, then drill through both tables and fasten them together with four countersunk carriage bolts. Cut a slot for blade entry. Now cut two ¾-in. dadoes to fit the miter gauge. Cut one parallel to the blade for standard crosscutting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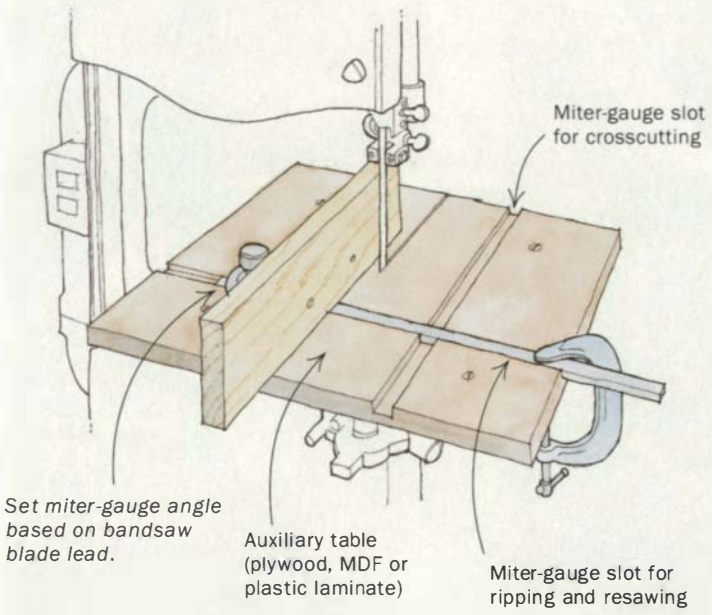
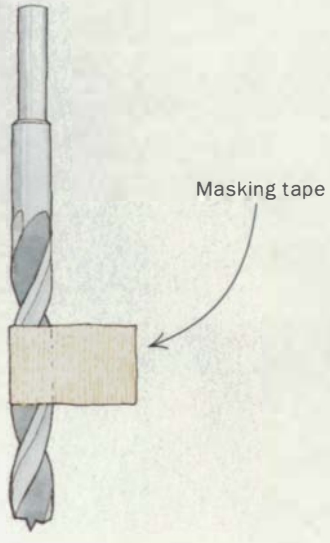


operations and then a second dado at a 90° angle to the first for ripping and resawing.

To find a blade's lead angle, mark a centerline on a piece of 1x2 scrap stock. Carefully rip freehand along this line until the stock reaches the rear of the table. Leave the 1x2 in this position and insert the miter gauge in the second slot as shown. Loosen the protractor adjustment knob and slide the miter gauge up to the workpiece. Adjust the fence angle to the lead angle you just found, then tighten the protractor knob. Remove the 1x2, position the miter gauge for the desired cut width, measuring from the front of the blade, and clamp the gauge in place. You're now set up for accurate, repeatable ripping and resawing.

—Anthony P. Matlosz, Howel, N.J.

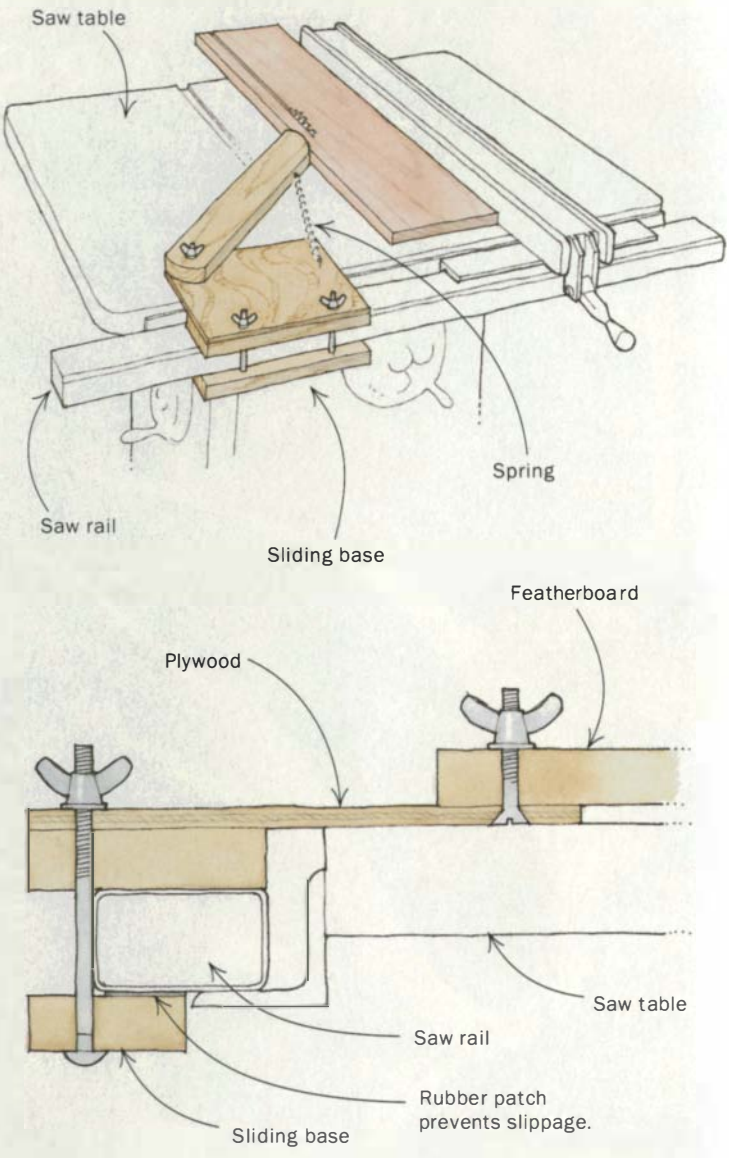
Masking-tape drill stop



***FWW* #46** The best depth stop for a portable electric drill is a masking-tape flag around the bit stem, as shown in the drawing. Masking tape works on all kinds of bits, is easy to set to the right depth and never mars the workpiece. The advantage of the flag is that you don't have to strain your eyes to tell when the tape reaches the surface: You simply stop drilling when the flag sweeps the chips away.

—Richard R. Krueger, Seattle, Wash., and Norman Crowfoot, Pinetop, Ariz.

Improved featherboard

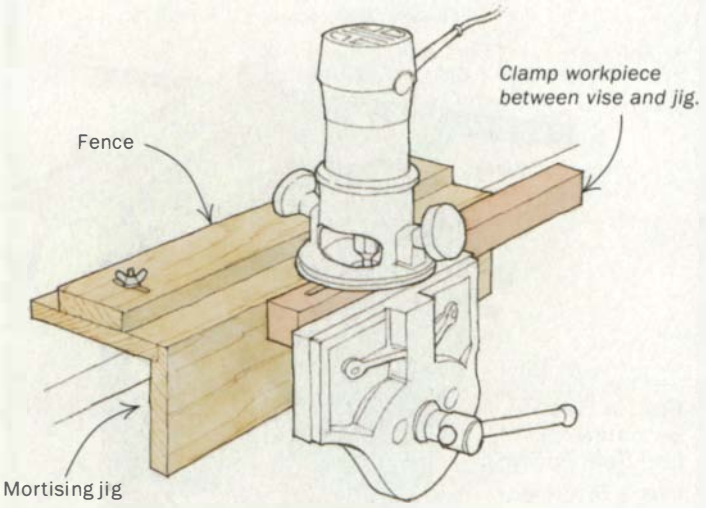


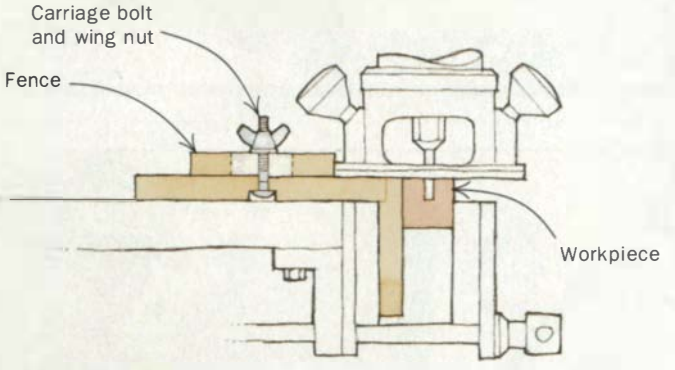
***FWW* #55** I finally got tired of the clumsy business of clamping a featherboard to the saw table and then tediously reclamping it each time to adjust it to the width of a new workpiece. The simple solution shown above took less than an hour to make and works perfectly.

It consists of two parts, a featherboard and a sliding base. The featherboard pivots on a bolt and is kept in tension against the workpiece by a spring. Custom-fit the sliding base to your front fence rail so that it can move anywhere along the front edge of the saw table and be locked in place with wing nuts or wedges. A

patch of rubber on the bottom piece will help keep the sliding base from slipping. —*Arthur Kay, Tucson, Ariz.*

Router mortising jig



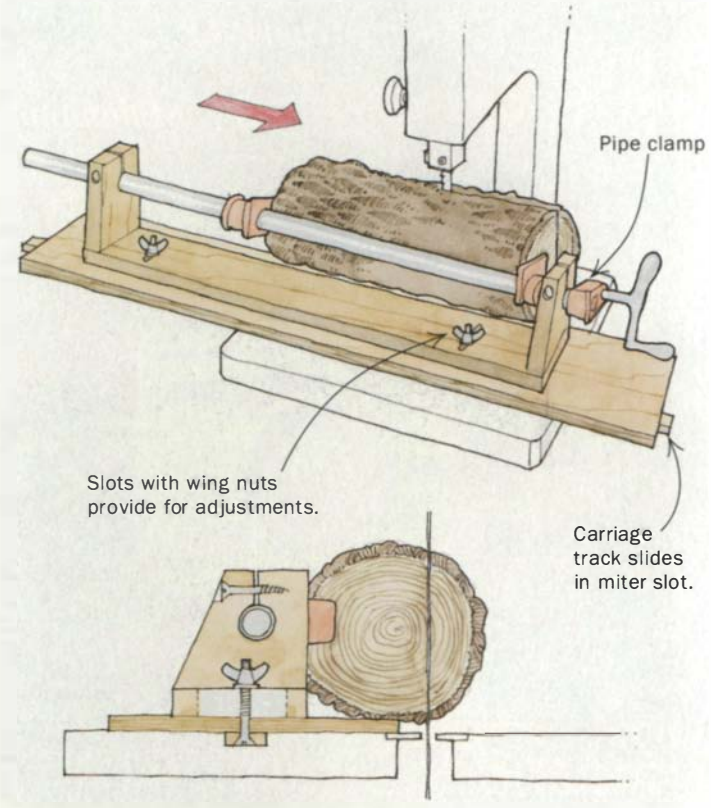


***FWW* #120** With this simple jig and plunge router, you can rout mortises or panel grooves in any size leg or rail. The work is held between the jig and your bench vise, clamped flush with the surface of the jig. The jig provides a stable base for the router. Adjust the fence back or forth to orient the router cut to the workpiece. For longer pieces, make a longer jig, and clamp the workpiece at each end. —*Anthony Guidice, St. Louis, Mo.*

Carriage for milling wood on the bandsaw

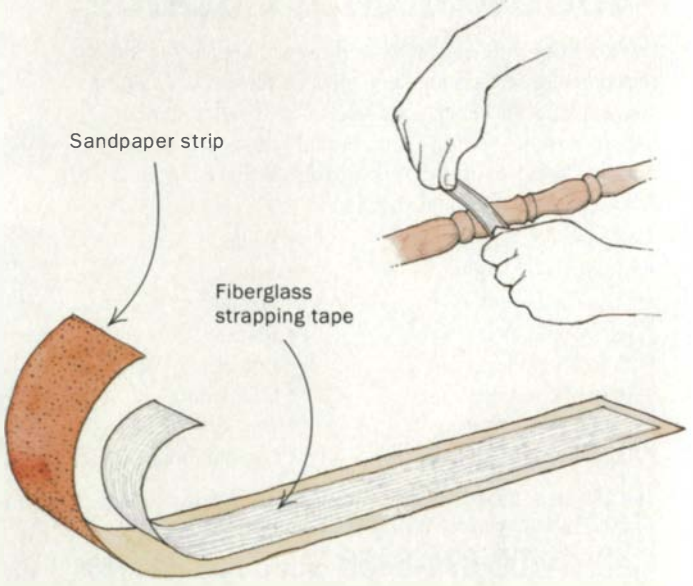
***FWW* #84** I'm always looking for interesting hardwood scraps, split firewood and small logs for turning blocks. But hand-feeding the irregular shapes through the bandsaw to cut them into usable pieces isn't safe. I developed a solution based on my recollections of a rolling log carriage used in sawmills. I used the same basic idea but scaled down the carriage.

I mounted a 3-ft.-long pipe clamp to a 2-ft.-long U-shaped maple bracket, as shown in the drawing above right. To allow lateral adjustment, I slotted the bracket's bottom and fastened it to the base with bolts and wing nuts. A maple track glued to the bottom of the base slides in the saw's miter-gauge slot. When making the carriage, be sure the clamp jaws clear the bandsaw blade with the



bracket at its closest setting. To use the carriage, tighten the log in the clamp, adjust the bracket for the width of cut and feed the log past the blade. —*E.G. Lincoln, Parsippany, N.J.*

Long-lived sanding strips



***FWW* #18** Narrow strips of sandpaper that are used to sand turnings or curved objects tend to tear, cutting less efficiently the shorter they get, until they are so many useless pieces of expensive

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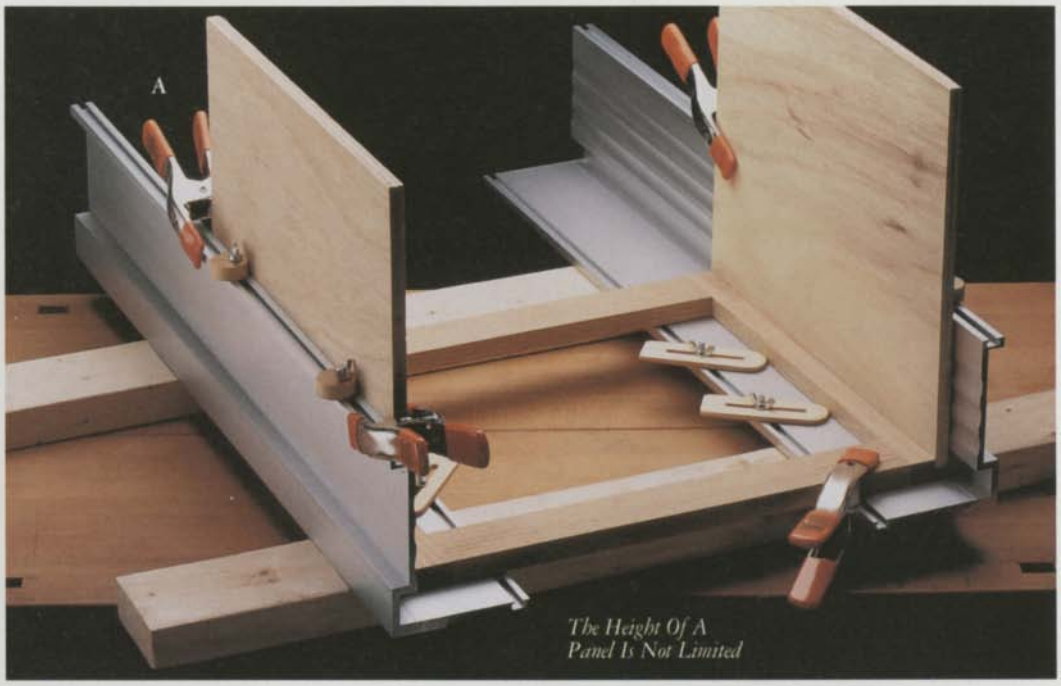
A / Fabulous Universal Assembly Jig Is A Cabinetmaker's Third Hand

Our long experience with this tool reinforces our appreciation of its incredible range of application – in the shop or job site. *It allows true, one-man case assembly work with machine square accuracy*, and gives you confidence where it would otherwise be virtually impossible.



When assembling cabinets, face frames, drawers or boxes, you really need something to hold the stock in place while checking squareness and during glue-up. The Universal Assembly Jig fits the bill perfectly. Unique to this jig is the built-in offset in the corner that makes it exceptionally useful for kitchen cabinets. Detailed instructions show you exactly how to fabricate beautiful, finished square corners with this innovative tool.

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Extra-heavy (8 lbs.) extruded, anodized (non-staining) aluminum, it is a masive ⅜″ thick and 30½″ long. Sides measure 4½″ and 6″. Two Adjustment Cams and two Position Clamps are included. Other clamps needed are common shop clamps (spring clamps, bar or pipe clamps etc.).

One Assembly Jig will do the job, but two are much more handy, and more economical. We highly recommend this tool. Patented.

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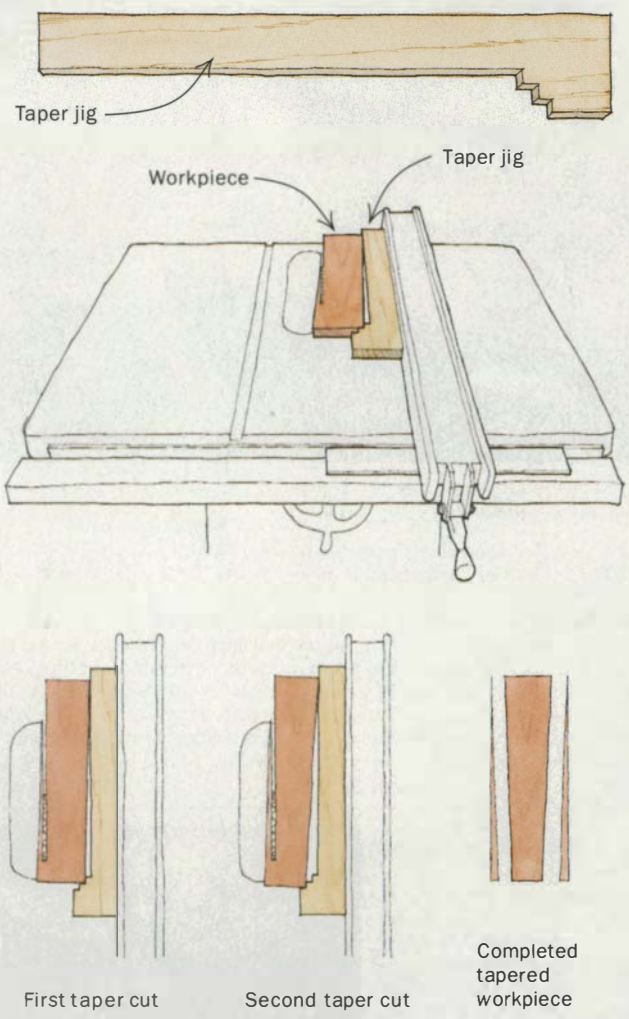
paper. To make them last longer, back them with fiberglass strapping tape; they'll be virtually untearable.

—J.S. Gerhsey, Lake Ariel, Pa.

Improved tapering jig



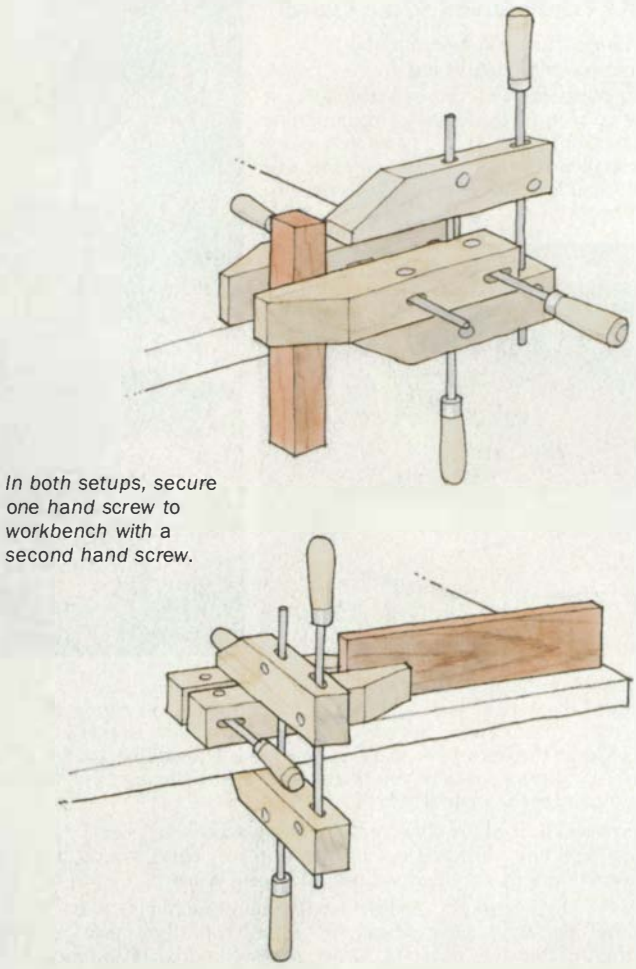
***FWW* #102** The tapering jig I use for short runs is just as quick to make as Phil Clark's (*FWW* #98, p. 20), but it also handles longer workpieces and provides more control and safety.

I simply cut three notches into a scrap piece that's 6 in. or so longer than the workpiece to be tapered, as shown in the drawings above. The width of each notch is one-half the taper. For longer runs or if the final taper is too small to hold securely and safely, I attach the jig to a substrate and use De-Sta-Co toggle clamps to hold the workpiece firmly.

—Tai Lake, Holualoa, Hawaii

Bench clamping with hand screws—two methods

***FWW* #88** Here's a make-do vise I set up until I have the time to build a proper woodworker's bench with a built-in vise (see the top drawing at right). Simply clamp one hand screw to the corner of a sturdy table with another hand screw. The bigger the hand screws, the better. This temporary arrangement produces



In both setups, secure one hand screw to workbench with a second hand screw.

a more than satisfactory substitute bench vise. For a more permanent solution, you could secure the hand screw directly to the tabletop with a lag screw. Recently I used this setup to support doors while I planed them to final dimensions.

—Jonathan Percy, Newport, R.I.

***FWW* #106** The workbench I am building doesn't have a vise yet. As an interim solution, I use two large hand screws. I lay the first clamp horizontally on the bench to hold the work. Then I clamp the first clamp to the bench lip with the second clamp, as shown in the bottom drawing above. This arrangement has the advantages of being cheap, movable, strong and versatile.

—Thomas Grace, Binghamton, N.Y.

Extension fence helps straighten crooked stock

***FWW* #115** I put off building one of those carriage fixtures for straightening crooked-edged boards on the tablesaw for several years. The fixtures require expensive hold-down clamps, and they reduce the possible depth of cut by holding the workpiece off the saw table. The real problem was that the length of the regular rip fence is too short.

Then I noticed an 8-ft.-long piece of aluminum channel leaning in the corner of my shop. I clamped the channel to the rip fence, as shown in the drawing on p. 38, to produce an auxiliary fence

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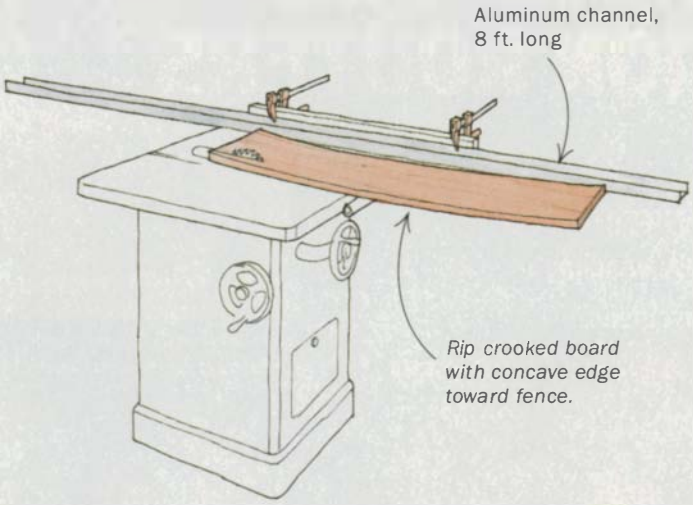
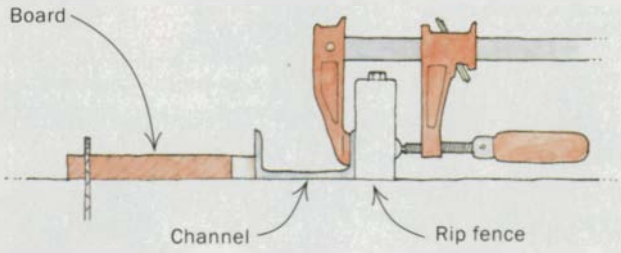
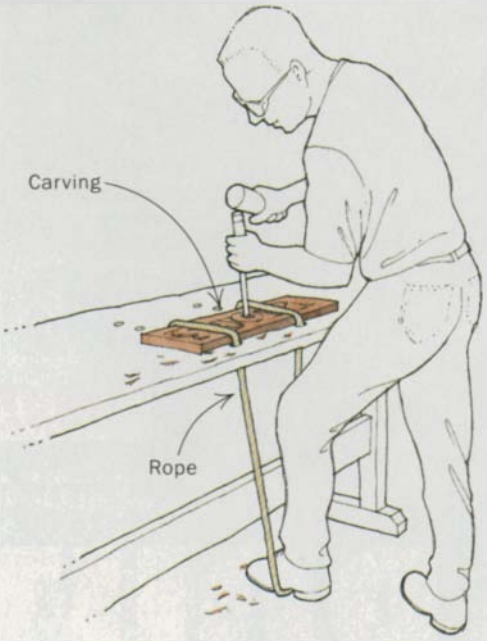




that would guide fairly long stock in a straight line. To use the auxiliary fence, I just put the concave side of the board against the long fence and push it through. It works.

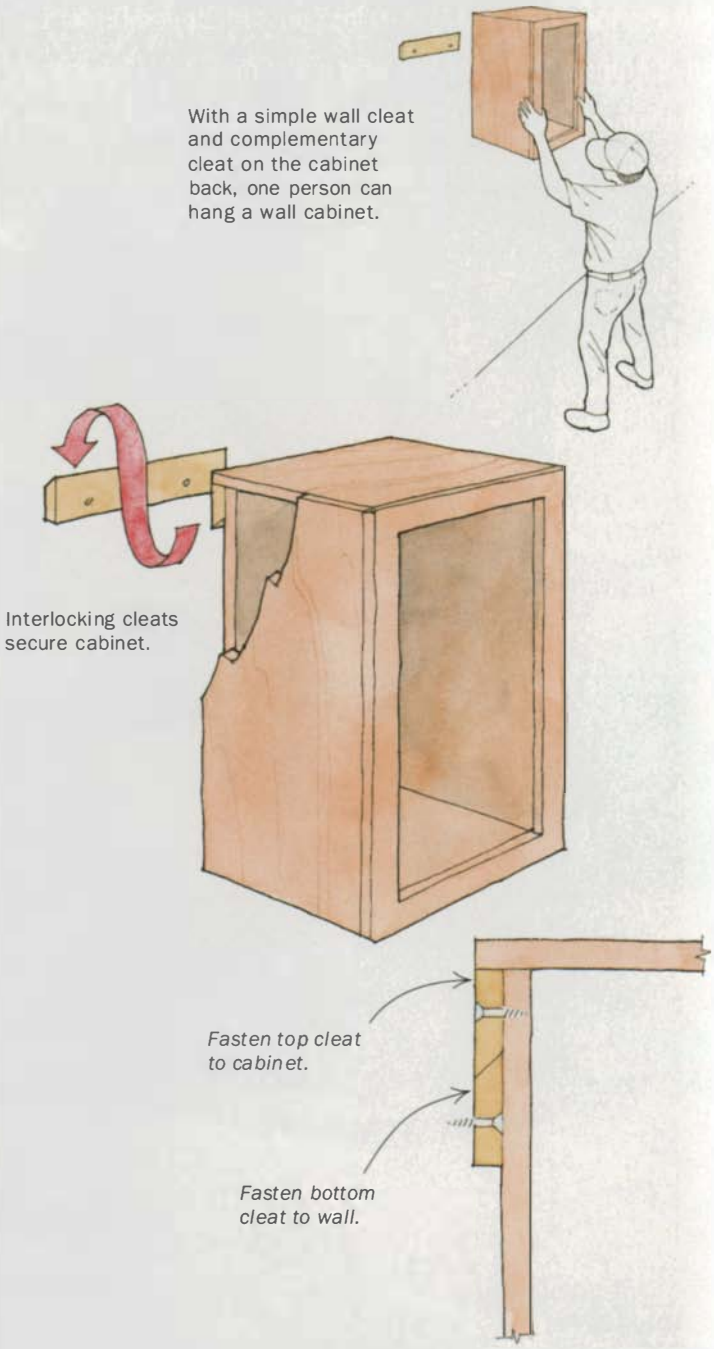
—William Mondt, San Diego, Calif.

Less is more



***FWW* #14** I have any number of expensive, cumbersome, time-consuming hold-down clamps for carving, but this rig beats them all. I discovered it while visiting China last summer. It's an easy way to hold down a workpiece that has to be moved frequently, for carving and fine work. *—W.D. Young, Scotch Plains, N.J.*

Wall-mounting cabinets



***FWW* #48** This simple method for hanging wall cabinets is fast, easy and accurate. Rip a ¾-in.-thick board in two at a 45° angle. Screw one cleat to the wall to form a perch and the other cleat to the cabinet back, which should be recessed ¾ in., as shown. Then just slip the cabinet over the wall cleat—a one-man operation. As a bonus, the cabinet can easily be removed whenever needed.

—George C. Muller, Union, N.J.

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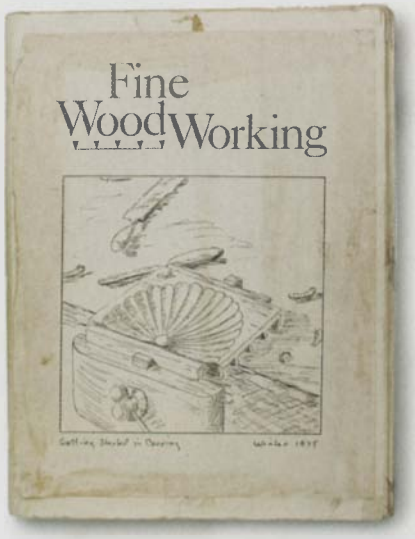
The First Years of

A unique magazine started in an attic helps woodworkers share their passion

BY JONATHAN BINZEN



If you were trying to learn how to work wood in the 1960s or early 1970s, you knew what it meant to be self-taught. Chances are you not only lacked a mentor and well-trained peers in the field, but you also faced a nearly total drought of information. High schools had basic shop classes, and community-college courses tended toward carpentry, but there were few schools that taught serious woodworking. Aside from *Workbench* magazine, which focused on simpler do-it-yourself projects, *Popular Mechanics*, which ran an occasional article on woodworking, and a handful of dry instructional texts, you were pretty much on your own for any information about woodworking.

But more and more young people seeking alternatives to traditional corporate and professional careers found their way into woodworking. They were joined by artists as well as older professionals in mid-career who sought a creative weekend outlet.

Paul Roman was a hobbyist who had long been frustrated by the lack of information in print on the subject. In the early spring of 1975, General Electric's corporate restructuring eliminated several jobs, including Roman's. He had been frustrated with his public affairs job, so he was not entirely disappointed. At one point he had run a classified ad in *The Wall Street Journal*: "Bored, blue-chip bureaucrat seeks new assignment." It got only three responses, all from headhunters.

Roman was 44. He had four girls in school, a boy in diapers and $2,800 in the bank. He was completing a house in Newtown, Conn., an old New England town where farmers and their John Deeres were just beginning to give way to commuters and their station wagons. With unemployment looming, Roman had to find his new assignment quickly. That's when he decided to start a magazine—right there in his new home.

Roman had toyed several years earlier with the idea of starting a magazine about woodworking. He had gotten as far as thinking up possible names: *Cabinetmaker's Journal*, maybe, or *The Journal of Fine Woodworking* or possibly just *Fine Woodworking*. Now, the daydreaming became planning. GE had given Roman until the end of the year. He had eight months to make his magazine.

Discovering a rich, hidden world

Over the next few months, Roman spent evenings and weekends seeking out woodwork and woodworkers. Roaming from Virginia to New Hampshire, he visited woodshops and craft shows, book stores and libraries, schools with woodworking programs and museums with furniture collections Along the way, his horizons widened. His own training in woodwork had been confined to his junior high school shop class in the 1940s and what he'd been able to pick up by trial and error. Sharing the general mindset of the time, he had thought that if you couldn't make something with power tools, you could not make it. But as he trav-

Before you can start a magazine, you must have readers. Fine Woodworking *founder Paul Roman wrote to woodworkers (right) in the early autumn of 1975 asking them to subscribe to his new magazine. His prototype (above) was shown to potential authors and advertisers to convince them to get involved in the effort.*

Fine Woodworking

eled, he discovered a richer, hidden world where craftsmen using a broad variety of tools and techniques achieved breathtaking results. His notebooks from those months brim with names that would soon become familiar to readers of *Fine Woodworking*: Tage Frid, R. Bruce Hoadley, Alphonse Mattia, Bill Keyser, Jere Osgood.

By late spring, feeling confident that he had discovered a solid group of craftsmen he could draw upon for articles, Roman turned his attention to mastering the parts of publishing about which he knew little or nothing: distribution, printing, paper costs, typesetters, marketing and advertising. Toward the end of that summer, he sat down to the most pivotal task of all—writing the promotional mailer, the invitation to subscribe. If the promo piece failed, so would the whole undertaking.

His vision of the magazine had crystallized, so he was able to write a strong letter that laid out the attributes of his new quarterly (to read a copy of the letter, visit www.taunton.com/fw/admin/25th). To this point, Roman and his wife, Jan, had been able to do almost everything themselves. But now, wanting to send out 20,000 copies of the letter, they enlisted their children and friends to paste labels and sort by zip code.

As family projects go, this one entailed fairly high risks. At 14 cents apiece, the 20,000 letters cost $2,800 to mail. That took care of the Romans' savings account. The letter asked subscribers to pay $8 up-front for a year's subscription to the magazine, sight unseen, and promised that the first issue would be delivered in November. Sight unseen, indeed! As the letters left the Newtown post office at the end of August, Roman did not have a single article in hand. Based on industry standards, *Fine Woodworking* could hope for about 800 subscription orders if the idea was well-received. Roman decided that if he got that many, he would do a second, much larger mailing and launch the magazine. If he got fewer, he would return the checks and start looking for a job.

Within a week of the first mailing, stacks and stacks of letters arrived, each with a check for a year's subscription and many with notes of delighted encouragement

Hold dinner, we're photographing a cover. *These bowls made by Irving Fischman graced the cover of the first issue in the winter of 1975. The bowls were shot with a Polaroid camera on the Romans' dining table.*

Photos, except where noted: Paul Roman

Home doubled as a business headquarters. *Jan Roman works on a side table in the Romans' home, where they established* Fine Woodworking. *Mailings to potential subscribers were sorted by zip code in a grid constructed of cardboard and tape. Jan is now chief financial officer of The Taunton Press.*

scribbled on the subscription form. After just four days of returns, the target of 800 subscriptions was reached. And the letters kept coming, eventually racking up 3,000 subscriptions.

This was wonderful news, but there was barely time to digest it. Roman had two months to assemble the issue and get it out the door. He spent September visiting his authors, coaxing manuscripts out of them and taking photographs. Meanwhile, for a second mailing, their first few employees were hired to type envelopes in the magazine's headquarters: the Romans' attic. "There was a lot of enthusiasm," said Ruth Dobsevage, who was one of the first two people hired and who has been with the company ever since. "It was like a family deciding to do a family project at that point. Much more like that than like a business." The crew in the attic sent out another 100,000 letters, which would generate another 15,000 paid subscriptions. Roman spent an October vacation in the attic as well. In one long blur of editing, layout and paste-up, he put together more than a dozen articles and emerged at the end of the month with a completed magazine. On Nov. 1, the premier issue of *Fine Woodworking* went to press with a print run of 25,000 copies (to read issue #1, visit www.taunton.com/fw/admin/25th).

Noble model. *Paul Roman thought* Scientific American *provided a worthy example of a magazine that aimed to be archival and dignified.*

A few defining decisions

Roman's aspirations for the magazine were modest. If things broke right, perhaps it would eventually attain a circulation of 25,000. As it happened, he discovered that he'd brought water to the desert. The 25,000 mark in circulation passed with the first issue. One-hundred-thousand flashed by after three years, and circulation continued to climb. By 1985, the magazine had more than a quarter-million readers.

Given that most new magazines struggle to break even by the fifth year, why did this magazine blast off into profitability with its first issue and then continue to grow? Timing was part of the reason. And a cluster of key decisions determined *Fine Woodworking*'s unique character and enabled its success. They were unorthodox choices, yet many have remained unaltered for 25 years and have been applied to every subsequent magazine that The Taunton Press has published.

A magazine without "writers"—The most profound move was to make a magazine written by its readership. If the magazine was to be full of excellent information, woodworkers themselves would be the best sources for it. As Roman wrote in a letter to the readers in issue #1: "What we're looking for primarily is expertise—the writing usually has a way of working itself out." Over the years, this policy has proven to be the magazine's greatest strength.

Readers first—Most magazines rely on advertising for the lion's share of their revenue. Under that model, readers are essentially bait to attract advertisers. But *Fine Woodworking* would be a magazine primarily supported by its readers, and Roman thought the magazine's advertising should be a service to the readers, not the other way around. So, from the beginning the magazine accepted only endemic advertising—ads for products and services related to woodworking. To keep from being beholden to a few large advertisers, the magazine set out to attract many smaller advertisers as well. Particularly in its first 10 years, when other sources for tools and

The backbone of a new magazine. *When* Fine Woodworking's *founder signed up Tage Frid to be a contributing editor, he knew the magazine would be good. Frid's wife, Emma, convinced Frid to give the effort a try.*

Photo, this page (bottom): Jonathan Binzen

A photo test documents the times. *Paul Roman took this photo to test his equipment for contrast. Son David (left) and daughter Sarah posed with a game-table top. Sarah is now head of circulation at The Taunton Press and publisher of* Fine Cooking *and* Threads *magazines.*

equipment were relatively scarce, the ads in *Fine Woodworking* were an irreplaceable resource for craftsmen.

It should be archival—Roman did all he could to give *Fine Woodworking* a distinctive look and heft. Having designed a logo for it that incorporated a set of dovetails, he wasn't going to settle for a magazine put together with nails. He decided it would be printed on heavy, coated paper and have an unusual, large format. He chose a stately typeface and decided to do the magazine in black and white for the blend of dignity and documentary grittiness it offered, much like *Scientific American* at the time, and also for its impact in a world of color magazines.

Photography by editors—An avid photographer, Roman decided to shoot his own photos. At first it was for purely cost-saving reasons. but it was soon clear that photography shot by woodworker-editors added to the authenticity, immediacy and informational quality of the magazine.

No advertisement on the back cover—Sometimes good decisions are ad hoc. Because of its visibility, the back cover is the spot most coveted by advertisers. The ad that was to run on the back of *Fine Woodworking*'s first issue was so unattractive that Roman moved it inside, put a short article on the back cover and declared a policy that no ad would ever appear there.

Finding Frid

When *Fine Woodworking* first came out, there was precious little fine woodworking being done in the United States. A country that had once produced Hadley chests, Newport breakfronts and Shaker wardrobes had lost almost all of its furniture-making expertise. To make his magazine a success, Roman needed someone who could link it to that vanished world of craftsmanship. As John Kelsey, a long-time chief editor of the magazine, described it, Roman knew the magazine needed "somebody who demonstrably had touched the hand. Who had been taught by master-to-apprentice, father-to-son and as far back into the mists as you could see."

Early in his searches, Roman had the great fortune to find just that person: Tage Frid, professor of woodworking at Rhode Island School of Design (RISD). Frid had served a traditional European apprenticeship in his native Denmark starting at age 13 and then worked in a series of woodshops in Denmark and Iceland before he was recruited to teach in the United States in 1948, when he was 33. "What Frid knew," Kelsey said, "was the distillation of a couple of thousand years." In addition, Frid had the inclinations of a teacher, which proved to be an incalculable advantage in his work for *Fine Woodworking* (see the story about Frid on p. 80).

Frid's articles, with their mixture of rock-solid authority and bantering tone, were an instant success. "He was a born teacher," said Roman, "and his primary concern was to communicate." Frid's myriad connections in the field were also vital to the magazine. Scores of Frid's students and students of his students would become authors for the magazine. And Frid—along with R. Bruce Hoadley, a wood technolo-

The early brain trust. Fine Woodworking *staffers in 1976 look over submissions. From left: Publisher Paul Roman, Contributing Editor R. Bruce Hoadley, Editor John Kelsey, Contributing Editor Tage Frid and Art Director Roger Barnes.*

An old house becomes a new home. *In the fall of 1976, The Taunton Press moved from the Romans' home to a converted, and enlarged, house a few miles away. On April 1, 1985, the company moved to its current headquarters (below).*

Color comes to Fine Woodworking. *After trying a few color articles in issue #41 (Aug. 1983), the magazine published in full color cover-to-cover (left), in issue #48 (Oct. 1984).*

gist at the University of Massachusetts who has been a contributing editor to *Fine Woodworking* since issue #2—was one of the key advisers, providing detailed feedback on the magazine in the early days (see the story about Hoadley on p. 78).

Magazine on a mission

If Paul Roman sketched a plan for *Fine Woodworking*, John Kelsey filled in many details. Kelsey was 28 and a year out of the woodworking program at Rochester Institute of Technology (RIT) when Roman hired him in August 1976, in time to help edit the fifth issue of the magazine. Within a month, Kelsey had taken over the editorial chores, enabling Roman to step back from the day-to-day making of the magazine and assume the role of publisher. As Kelsey sees it now, the magazine's mission was "to map the field. To show you just how broad this is, and just how far into human affairs it cuts."

Kelsey, who now runs Cambium Press, a publisher and bookseller in Bethel, Conn., arrived at *Fine Woodworking* with 10 years' experience working on newspapers around the country. He also brought with him a style of writing that was clear and compelling, whether he was describing a turning conference or a tenoning jig. "I felt that my role was to be there on behalf of all those fellows who couldn't be," he said. "And so I should write about it in a way that they could understand. I should try and open a window."

His first year on the job, Kelsey edited *Fine Woodworking* virtually single-handedly, as Roman had done before him. When the magazine went from quarterly to bimonthly in 1978, however, that was no longer possible. In the following years, Kelsey led a small staff. His hiring principle was to select people with a talent for writing but a passion for woodworking rather than hiring seasoned journalists. It is a hiring philosophy that continues to this day.

The wisdom of this approach was abundantly evident in the magazine. Every new issue seemed to turn up another fascinating woodworker, either historical or contemporary. The magazine excelled at singling out and describing distinguished work. At the same time, it poured out articles on hundreds of technical topics never before or only poorly covered in print,

Nail exposes a controversy. *The back cover of issue #24 featured a cabinet with a bent-nail door handle and a table with graffiti on its top. The cover set off a spirited debate in the Letters column.*

A real woodworker? *Some readers chastised the magazine for featuring Norm Abram on the cover of issue #98. Others said Abram deserved credit for bringing new people to woodworking.*

from steam bending and stack lamination to dust collection and solar kilns.

Rick Mastelli, Kelsey's first assistant editor and the first head of Taunton's video effort, added excellent articles of his own on period furniture makers, woodworking exhibitions and regionally important woodworkers. When other projects at the growing company took Kelsey away from daily oversight of *Fine Woodworking* in those early years, Mastelli filled in and kept the pipeline of articles flowing.

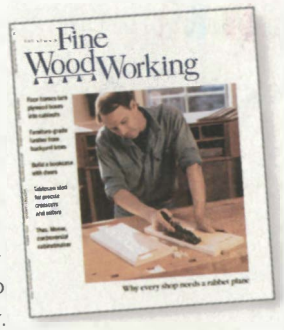
Roughly speaking, Kelsey's editorial direction spoke to the younger generation in *Fine Woodworking*'s audience, the so-called hippie woodworkers—politicized, passionate, struggling to learn the craft and make a living from it. Roman, on the other hand, 16 years older, identified more easily with the people for whom woodworking was a form of relaxation, not a lifestyle. For his part, Roman said Kelsey "did a little different magazine than I would have done, but overall we always had the same view of it. We had slightly different interests—he liked the quirky a little more than me. But he did a superb job." There was, by all accounts, always a push and pull between editor and publisher, which produced a vibrant magazine.

A readership both unified and divided

A similar tension has always been evident in *Fine Woodworking*'s readership. From its first issue, *Fine Woodworking* has attracted a group of readers united in their passion for woodworking but divided in any number of other ways: between older readers and younger, experts and beginners, power-tool junkies and hand-tool absolutists, makers of period and contemporary furniture, professionals and amateurs, art furniture makers and devotees of pure function. The diversity of the readership makes it impossible to satisfy, but the attempt keeps the magazine vital.

Every once in a while an item in the magazine starts a brush fire in the Letters column. Perhaps the most enduring controversy in the magazine's history was sparked by an innocent-looking cabinet pictured on the back cover of issue #24. At first glance, Garry Knox Bennett's padauk showcase cabinet seems inoffensive. You have to look closely to see the source of the controversy. There it is, in the upper door—a big, fat, bent nail hammered into an otherwise pristine cabinet. Bennett's nail perfectly polarized two factions in the readership, mortally offending some, who took it as a desecration of craftsmanship, and delighting others, who saw it as an inspired artistic gesture (you can read some of these opinions in the Letters column on p. 10).

Another division in the readership was revealed by an article in issue #98, a profile of Norm Abram and the television show *New Yankee Workshop*. If the nail controversy pitted conservatives against iconoclasts, the storm over Norm was something different: a battle over standards of craftsmanship that prompted charges of elitism on one side and "dumbing down" on the other. "Norm's picture on the cover of *Fine Woodworking* is like Phyllis Diller on the cover of *Playboy*," one reader wrote. But another answered, "*New Yankee Workshop* teaches viewers basic woodworking without making the viewer feel stupid." The flap caused by that article provoked a hundred letters and took half a year to settle down. Like the nail in Bennett's cabinet, the profile of Norm raised issues that were never in danger of being resolved.



Facelift. *In 1998,* Fine Woodworking *redesigned its front cover to include more about what was inside and to bring back the white border that framed the cover in the early years.*

For all their diversity, *Fine Woodworking* readers are united in their passion for their craft. When Roman wrote his promotional letter 25 years ago, he started it with, "Woodworkers are a quiet lot." At the time, it seemed so. But after witnessing the lively exchange of opinions his magazine has generated over the years and the fierce loyalty that has made it endure, perhaps Roman would rewrite that sentence to read: "Woodworkers are a passionate lot." □

Jonathan Binzen is a former senior editor at Fine Woodworking *and is now working as a freelance writer and editor.*

The current editorial staff. *Editors and art staff who worked on this issue include, from left: Mike Pekovich, Matthew Teague, Bill Godfrey, John White, Tim Sams, Tom McKenna, Tom Begnal, Tim Schreiner, Asa Christiana, Bob Goodfellow, Chris Baumann, Jon Miller, Mark Schofield, Anatole Burkin, Bill Duckworth and Erika Marks.*

Photos: this page (bottom): Scott Phillips; facing page (right, second from top): Michael Pekovich

Sam Maloof

BY ALLAN BOARDMAN

Woodworker. That's what he calls himself; not "artisan," not "craftsman," not "artist in wood." Just woodworker. Simple. But the furniture that Sam Maloof has been making for nearly 50 years can be found in the permanent collections of major museums around the world, in the Vatican, the White House and the homes of several thousand people with discriminating taste and a love of fine woodworking. Lots of woodworkers make furniture, but not very many of them achieve this kind of recognition. Maybe it is not so simple.

Life plan

When I first noticed his work, in the '60s, I was immediately impressed with the clean, balanced lines, the obvious functionality, the consistency of his design themes. A few years later, when I met Sam and visited him and his wife, Alfreda, in their home, I realized that this consistency was far more than a design concept—it was an integral part of a life plan.

On that first visit, their setting struck me as idyllic; perhaps that was the way we thought about such things in the '60s. There they were, in the middle of a lemon grove, a comfortable distance from the big city, in the house Sam had built and furnished himself, with their family around them, Sam's shop attached to his home, working with wood for a living. Could it get any better!

Nearly 30 years later, Sam, with Alfreda at his side, was still there, turning out furniture. Their home was the same but not the same: Civilization had crept right up to the edges of their compound. They had added a number of rooms, many architectural details and wonderful works of craft and fine art. Sam was more widely known by then, but not through advertising—he had never produced a catalog, nor had he even used business cards. He didn't have to; his work spoke for him.

Maloof's life plan, which I had recognized 30 years earlier, was still in place. It was not the type of life plan one sits down and works out consciously. Rather, it was one that evolved by sticking to beliefs and ideals, by a husband and wife sharing confidence in a future of their own design, by

a willingness to take the time and take the risks to work at something one loves to do.

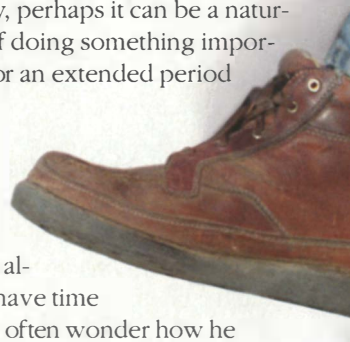
A slow, steady refinement

Over the decades, his furniture remained unmistakably *Sam Maloof*. It bore an obvious resemblance to his early work, but it never stopped evolving. On my periodic visits to his home and shop, Sam would point out to me, with great satisfaction and pleasure, some new feature—a continuous "hard line," which added definition to the basic form that he traced with his finger around the edges of a piece, or a new joint he developed for the front legs of his chairs. Still essentially the same chair, but better; more mature, more elegant. Line, silhouette, function and utility, construction quality and materials remained central in his work—never novelty, ornamentation or fashion. I believe Sam's success is, at least in part, due to this process of evolutionary refinement.

Not only the designs, but the techniques evolved as well. Working over time with a core design concept, one gets well practiced at handling tools and materials, performing similar and familiar processes. Watching Sam work, one is moved by the confidence he exhibits, his directness, sureness and speed. Such confidence is much harder, perhaps impossible, to achieve when one is forever shifting directions. Adjustments and improvements in one's work methods come naturally when one is on the path of evolutionary refinement. Improved work methods can lead to faster, less wasteful production, which, in turn, lead to cost efficiencies. Living the idyll or not, one must pay attention to the business side of the craft.

The soul of a chair

Sam exudes confidence and authority yet seems also to engage everyone on a personal level and with a genuine interest. One doesn't train for this; if one is sincere and a little lucky, perhaps it can be a natural by-product of doing something important very well for an extended period of time.



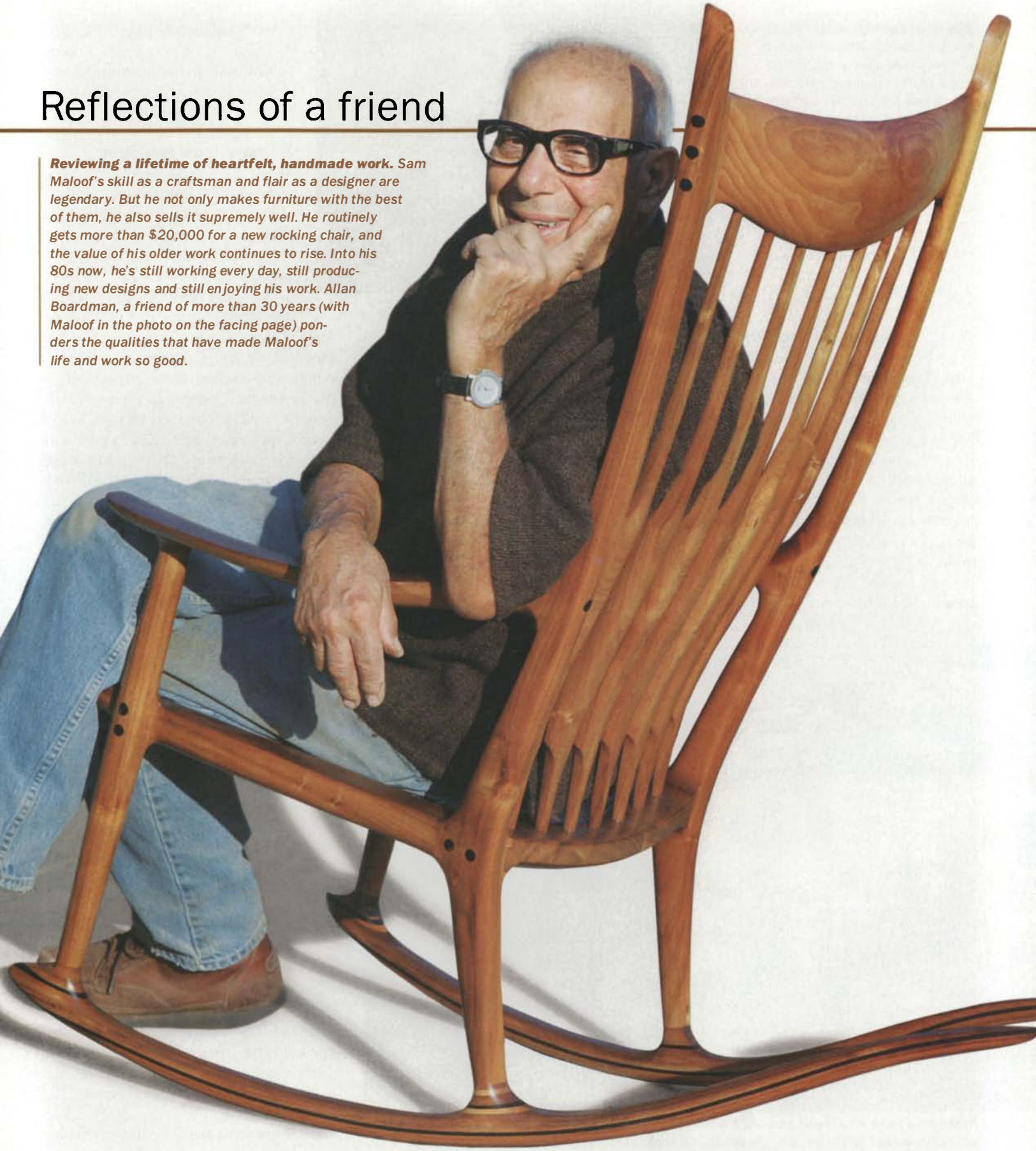
When I visit Sam, I often find that other visitors are already there. He always seems to have time for everybody. I often wonder how he ever gets any work done. With obvious pleasure, and without any apparent concern for the interruption the visits cause, Sam will tour them through the house (or simply let them roam around on their own) and show them around his shop. He seems to deal with everybody on whatever terms they desire, on their agenda.

Sam says a part of himself goes out of the shop with each piece of furniture. Al-

Photos, this page: Author; facing page: Tavo Olmos

Reflections of a friend

Reviewing a lifetime of heartfelt, handmade work. *Sam Maloof's skill as a craftsman and flair as a designer are legendary. But he not only makes furniture with the best of them, he also sells it supremely well. He routinely gets more than $20,000 for a new rocking chair, and the value of his older work continues to rise. Into his 80s now, he's still working every day, still producing new designs and still enjoying his work. Allan Boardman, a friend of more than 30 years (with Maloof in the photo on the facing page) ponders the qualities that have made Maloof's life and work so good.*



A perfect pairing. *Maloof's wife, Alfreda, encouraged his rash plan to quit his job as a graphic artist 50 years ago and become a woodworker. She helped him with his business and provided constant support.*

though his helpers do a lot in the making of a piece, Sam gives the work its essence—he creates the designs and patterns, he selects the wood, cuts and shapes each element, assembles the whole; his eyes and hands critically inspect the final product. He uses power equipment to break down large pieces of timber and rough out the shapes, but his hands, working with basic hand tools, create the final form. Of course, he is aware of computer numerically controlled (CNC) routers and other technology he could use to improve the shop's efficiency. And it must be tempting to find a way to reduce what has become a five-year backlog of orders. But he refuses to go in that direction, because he knows that the fewer the hand operations, the less direct his connection and, perhaps, the less of his soul will be imparted to each piece. The imparting of soul, in my opinion, is absolutely central to Sam's philosophy about his craft. It is part of the reason he makes lifelong friends with each of his customers, and it explains why he can turn out rocker after rocker, doing what might seem repetitive work, yet treat each piece with freshness and excitement: The figure in this wood is unique, the piece of his soul that is going into it is unique, his relationship with the person who will get this chair is unique, so he has not made this chair before.

New home for a displaced person. *A highway is slated to run through the property where Maloof designed and built a remarkable house and group of outbuildings over the years. Because his structures had been designated eligible for historic status, the government has agreed to move them to a new property nearby, where they will be open to the public as a museum within a few years. Maloof will live in a new house (above), which he designed for the new property.*

Moving without moving on

About a decade ago, civilization crossed the boundary into the Maloof world: The state intended to run a freeway through their property. Years of negotiations resulted in forcing Sam and Alfreda to move their home and workshop—a long, difficult, emotional and energy-consuming process. This was not a project that most people in their 80s would welcome, but Sam was enthusiastic—he felt fortunate that he had this opportunity for a new start.

In 1998, Alfreda passed away. She had been with him at the beginning, when it wasn't at all clear that they could survive making furniture. Over the years, Alfreda's love and encouragement were crucial, but more, she handled the many administrative details behind the scenes, freeing Sam to do what he does best: make beautiful furniture and nurture lifelong friendships with those who buy it from him.

Even with this overwhelming loss and the disruption that the move has caused, Sam, along with his small staff, has continued to produce furniture at a steady rate of about 50 pieces a year. While his shop was being dismantled and literally rolled to its new location, the team filled orders while working under makeshift tents.

Sam's life and business are as original and as handmade as his chairs. He's hardly one to study business practices. But if he ever did crack a book on business strategy, he might run across the term "constancy of purpose," a quality often cited as critical to business success. The idea is to establish a clear objective and work diligently toward it. This is what Sam has been doing instinctively for the last half century: Pursuing his vision with extraordinary tenacity and single-mindedness. Perhaps this is what it takes to achieve the quality of design and craftsmanship that a piece of Maloof furniture represents. Perhaps it takes a human lifetime to fully develop some themes. □

Allan Boardman is a retired mechanical engineer and longtime woodworker in California. *Special thanks to Jerry Glaser for his contributions to this article.*

Photos, this page: Tavo Olmos (bottom); Jonathan Binzen (top)

Maloof's challenging chairs

A FELLOW CHAIR MAKER'S OBSERVATIONS
BY BRIAN BOGGS

My first encounter with Sam Maloof's chairs forced me to rethink my whole attitude about what is important in one's work. His chairs challenged my ideas about how wood is to be worked, shaped and joined, and how chairs are to be designed. I had gotten interested in woodworking through James Krenov's books, and then I was drawn into chair making when I read John Alexander's *Make a Chair from a Tree*. Book-matched grain, mortise-and tenon joinery, grain alignment, hand planed or shaved surfaces—these, I learned, were what good furniture was about. But in Maloof's furniture, although every joint and detail exhibits a mastery developed over decades, the seats and spindles are made of wood not matched for symmetrical grain patterns, screws are used to reinforce critical joints, and the bent-laminated rockers are shaped right through some of the laminations. A litany of transgressions in a single chair. And yet not only are his chairs beautiful, they also practically sing and dance with soul.

As I study the chairs, I see that the massive joinery at critical stress points eliminates the need for stretchers below the seat, allowing for a beautiful balance of strength and elegance. The details around the joints, the treatment of the top of the legs, the way the arm flows from the rear leg to a wide, comfortable seat for your forearm—these things are done not only to solve local construction problems and to make the chair comfortable but also to help create an overall visual balance and flow that help bring the chair to life. There are no obvious straight lines in Maloof's chairs. Everything is moving, and curves change directions; radical dimensional changes like the ones in the spindles of the back are done perfectly but very organically. All this makes it easy for your eyes to explore the entire piece—and what a delightful trip that is.

When I approach a Maloof chair, its arms seem to be making a welcoming gesture, reaching out to invite me to sit a while. The rear legs are splayed back to accept the stress as I ease into the seat. My hands feel comfortable at the ends of the arms, but they won't lie still—there is too much to explore. From the graceful curves that flow right around the joints to the clean, hard lines that define the chair's form, one detail flows naturally into the next.

Maloof's chairs are not an overnight idea; they are a painstaking development of form over decades of hand-sculpting details. But these chairs go beyond a mastery of woodworking. In furniture, as in classical music, a piece can be technically perfect and leave us unmoved. Maloof composes and performs his masterpieces with a passion for work and life we can all feel when we experience his chairs. In doing so he has elevated the status woodworking can achieve and has given us all a benchmark to measure our own efforts by. I, for one, am very grateful for his inspiration. □

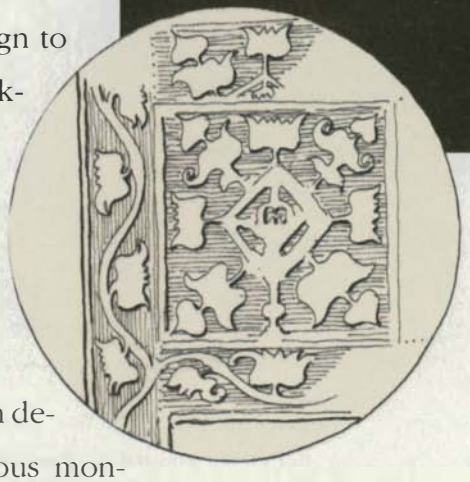
Brian Boggs is a chair maker in Berea, Ky., who works in the Appalachian tradition. His chairs are recognized by craftsmen and collectors as some of the best being made today.

Photo, this page: Jonathan Binzen

A Short History of Design

A visual guide to woodworking's enduring styles

BY
GRAHAM BLACKBURN



Since its inception 25 years ago, a vast range of furniture from various periods has appeared in *Fine Woodworking.* What follows is a condensed overview describing many of these various styles. I've tried to put them into a historical perspective based on their defining characteristics, but the process of design is continual and unending. Hepplewhite and Sheraton styles, for instance, were made during the Mahogany Period in England but weren't prevalent in the United States until after the Revolution, during the Federal Period.

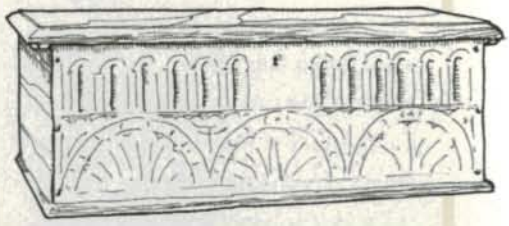
Any attempt to categorize definitively the products of a given period is bound to be inexact. It is in the very nature of furniture design to evolve, often haphazardly, taking a little from here and a little from there, sometimes making a large leap with the invention of a new technique or a new material.

British furniture is most often described in terms of the various monarchs during whose reigns it was made, but for a more familiar division of furniture design in America, I've chosen more local names. Nevertheless, it remains true that most American furniture is very similar to the contemporaneous British styles. A great deal of furniture from the early periods made in the United States was built by craftsmen either trained in Britain or who used British patterns. By the 20th century the differences had more to do with individual makers than with national styles. □

Graham Blackburn is a furniture maker, author, illustrator and the publisher of Blackburn Books (www.blackburnbooks.com).

THE NICHOLAS DISBROWE CHEST, 1660

- Nicholas Disbrowe is the first known American maker
- Oak, frame-and-panel construction
- Uncompromisingly rectangular
- Similar to earlier English oak styles, but distinctive Connecticut Valley, Hadley style
- This piece shows the chest becoming a chest of drawers
- Tulip motif carved over entire foot



"BIBLE" BOX, 1670

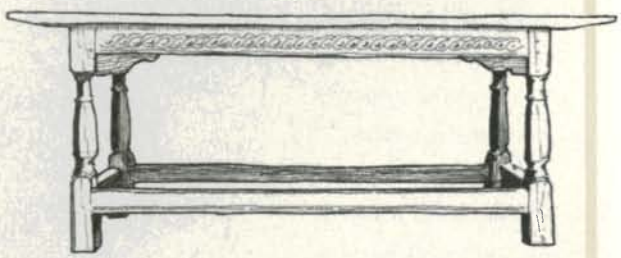
- As with most boxes of the period, this one is nailed together
- Oak throughout, but many boxes were made of pine or with top and bottom of pine
- Lunette and flute carvings were simple and geometrically based
- Overhanging, cleated top

The Pilgrim Century, 1620-1750

Much early American furniture came here with the first immigrants, including, most famously, the Pilgrims. They brought—and then made—oak pieces typical of the Jacobean, William and Mary, and Carolean periods in Britain; pieces that retained a strong Gothic influence, sturdy pieces, heavily carved pieces, pieces with cup-turned legs and bun feet. Much of the work from this Early Colonial Period is representative of a utilitarian life.

THE ELDER BREWSTER CHAIR, *ca.* 1650

- Wainscot constructed oak (wainscot means "wagon oak" and refers to the paneling)
- Joiner's work
- Framed construction, pinned for strength
- Bold turnings
- Heavily carved
- Stout stretchers
- Less-heavily carved chairs of the same construction are common
- Reminiscent of earlier British chairs in the Gothic style



DINING TABLE, *ca.* 1700

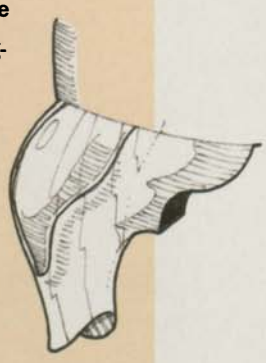
- Oak
- Strap carving on front apron
- Simple turning with square ends on legs
- Stout stretchers
- Edge-joined top
- Pinned mortise-and-tenon construction
- Bracketed legs
- Post-assembly carving (as on old chests)

Drawings: Author

The Mahogany Period, 1702-1780

The Mahogany Period (late Colonial), covering the first half of the 18th century, roughly parallels the periods known in Britain as Queen Anne and Georgian. Walnut gave way to mahogany as the predominant wood, and the beginning of the period saw a sudden simplification of style into a less ornamented and more severely elegant aesthetic. Perhaps the most typical element is the cabriole leg, at first plain and finished with a simple turned pad foot, and later developing into a highly carved element complete with ball-and-claw, hairy-paw or lion's foot. Furniture was made by cabinetmakers rather than joiners, and the list of American Chippendales is long (Thomas Chippendale was the most famous English cabinetmaker of the period and by whose name furniture of the middle of the period is often known). It includes the Goddards and Townsends of Newport, R.I., and many notable Philadelphia makers, including William Savery, Thomas Affleck and Benjamin Randolph.

Arm terminal volute



Savery-style "tongue" carving on knee

KNEEHOLE DESK (BUREAU), ca. 1765

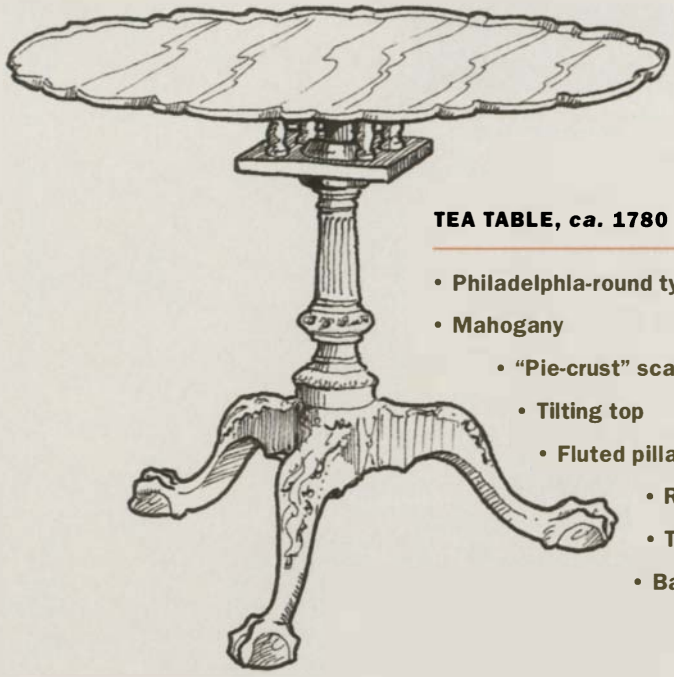
- Made by John Townsend of Newport, R.I.
- Mahogany, with poplar as a secondary wood
- Block and shell front
- Shell-carved kneehole door
- Bracket feet
- Solid top
- Single, wide drawer
- Two tiers of narrow drawers
- Closely related to the highboy on the opposite page, this is essentially the lower half of a chest on chest with a kneehole cupboard

SIDE CHAIR, ca. 1780

- Typical Chippendale style
- Mahogany
- Square back
- Cupid-bow crest rail
- Pierced and carved splat
- Highly carved, squared-off cabriole front legs
- Ball-and-claw feet
- Stump rear legs
- Rectilinear seat

WILLIAM SAVERY ARMCHAIR, *ca.* 1750

- Typical Queen Anne style
- Mahogany
- Rounded back
- Plain, profiled splat
- Not much carving, except for volutes and shells
- Cabriole front legs
- Simple trifid feet



TEA TABLE, *ca.* 1780

- Philadelphia-round type
- Mahogany
- "Pie-crust" scalloped edge
- Tilting top
- Fluted pillar
- Richly carved legs
- Tripod legs
- Ball-and-claw feet

TEA TABLE, *ca.* 1750

- New England-rectangular style
- Maple; originally painted red
- Markedly slender cabriole legs
- Pad feet
- Deeply scalloped apron

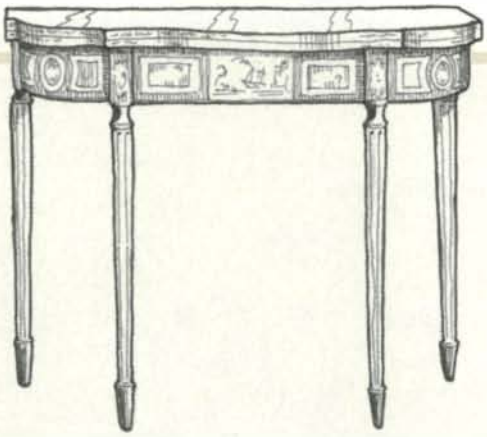
HIGH CHEST OF DRAWERS (HIGHBOY), *ca.* 1770

- High-style work typical of Philadelphia cabinetmakers
- Chest-on-chest, double-case construction
- Richly carved, broken scroll bonnet
- Carved corners
- Carved cabriole legs with ball-and-claw feet at front and back
- Sophisticated proportions, progressively graduated drawers
- Veneered casework

Federal Period, 1780-1840

After the Revolution, American tastes and sympathies transferred from Britain to France, especially with regard to furniture styles. The French Empire style planned and fostered by Napoleon was adopted and distinctively modified by American cabinetmakers and is typically known as Federal style. In comparison to the light and well-proportioned furniture typified by the Hepplewhite- and Sheraton-style pieces of the end of the Mahogany Period and the early days of the Federal Period, much Federal furniture is dark, heavy and vulgar. The finest, however, is often superb and owes much to one of the most famous of all American cabinetmakers, Duncan Phyfe, a New York woodworker possessed of great taste and a wonderful eye for proportion.

Typical Hepplewhite pull



TABLE, ca. 1810-1820

- Reminiscent of the Sheraton style
- Pier-type table with ovolo corners
- Mahogany and maple painted black with gilt and polychrome
- Harbor view painted on center of apron
- Typical of Baltimore Federal-style painted furniture
- No stretchers, Sheraton-style tapered and fluted legs
- Inlay and banding
- Tapered feet

LYRE-BACK SIDE CHAIR, ca. 1815

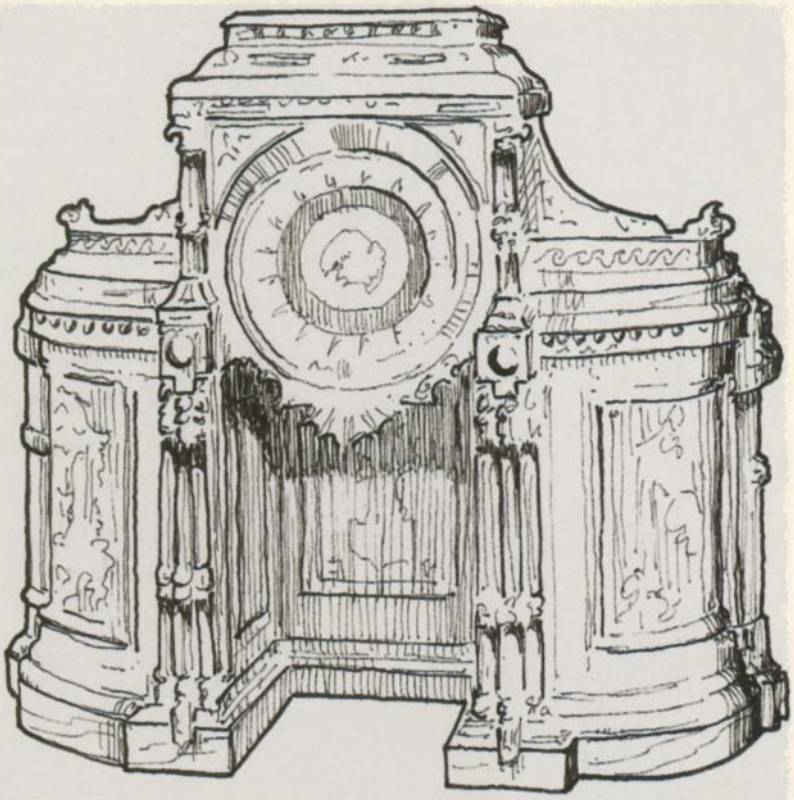
- Klismos-type chair with classical details, made by Duncan Phyfe
- Mahogany
- Shaggy front legs
- Hairy-paw feet
- Lyre splat
- Heavily reeded
- Graceful curves
- Light, stretcherless construction

SECRETARY, ca. 1820

- Highly varnished
- Veneered construction
- Massive in scale and proportion
- High-style Philadelphia Federal bureau, French Empire-inspired
- Mahogany and bird's-eye maple

SIDE CHAIR, *ca.* 1880

- Typical Eastlake style
- Walnut and leather
- Relatively simple lines
- Avoids excesses of French Antique style
- An attempted return to Gothic design principles
- Carved design
- Spindled crest and apron
- Partially turned front legs
- Squared-off stretchers



CABINET, *ca.* 1876

- Classical motifs
- Elaborate marquetry panels
- Typical of Renaissance Revival style
- Carved, curved and applied gilt ornamentation
- Maximum opulence
- Rosewood

LIBRARY TABLE, *ca.* 1880

- Typical of the Modern Gothic style
- Ebonized cherry
- Inspired by the craft traditions of the Middle Ages
- Supposed honesty of construction and materials
- No applied ornamentation

The 19th Century, 1840-1910

The mid-19th century saw mass-production become the norm in all areas of American life—from farming to high-end furniture making. Some furniture historians refer to this as the era of the "degraded style," and while commercialism certainly resulted in a lot of cheap, shoddy and undistinguished work, there also was a remarkable burgeoning of vigorous new styles, some unabashedly derivative, including Rococo Revival, Egyptian Revival, Gothic Revival and Italian Revival.

Nineteenth-century furniture (which is often referred to as Victorian—after the reigning British monarch) tends to be thought of as extremely ornamented, overstuffed and often in terrible taste, but it also includes much innovative elegance, typified by pieces from makers such as Emile Gallé, Louis Majorelle, Michael Thonet, Charles Voysey and Charles Eastlake. There is, in fact, no one common characteristic of the period other than that of diversity.

CUPBOARD-CHEST, *ca.* 1830

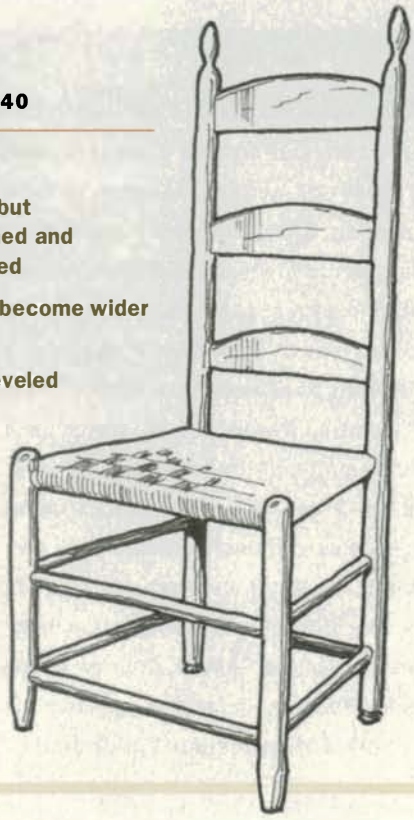
- Pine; originally painted red
- Simplicity of form offset by sophisticated joinery
- Raised panels
- Pinned mortise and tenons
- Turned pulls and pegs
- Molded-lip drawer fronts
- Fully dovetailed drawers

SIDE TABLE, *ca.* 1830

- The quintessential Shaker table
- Cherry, with pine interiors
- Tapered legs, turned at feet
- Large top with wide overhang
- No molding, carving or inlay
- Fully dovetailed, flush-front drawer

SIDE CHAIR, *ca.* 1840

- Woven tape seat
- Seemingly simple, but thoughtfully designed and carefully constructed
- Slats graduated to become wider from bottom to top
- Tops of slats are beveled
- Back legs outfitted with "tilters" for greater comfort (tilters allow you to lean back in the chair without damaging it)



Shaker, 1800-1900

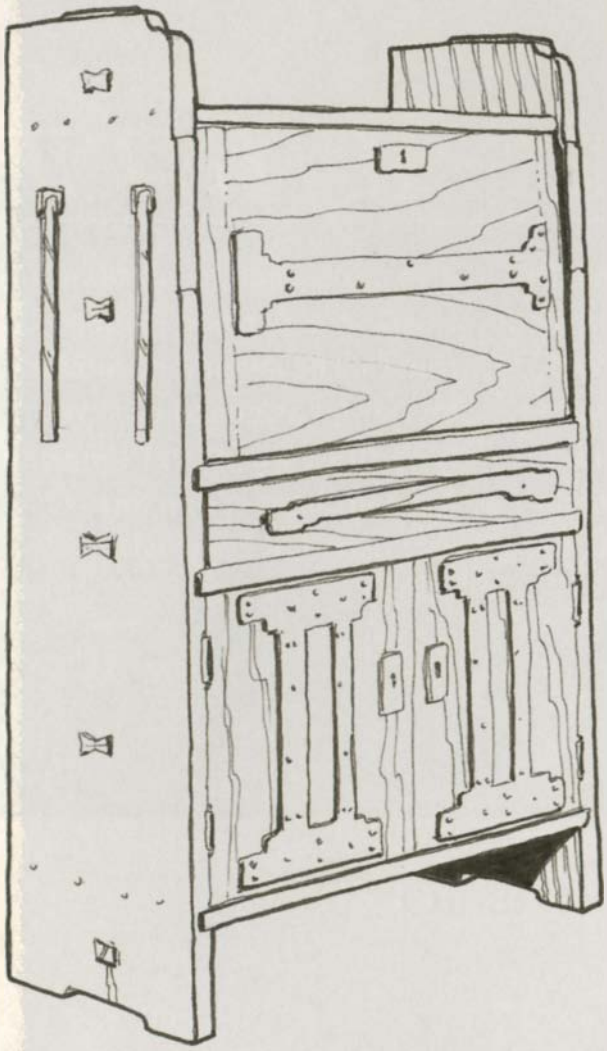
Throughout the 19th century, the Shaker communities were producing furniture so different from everything else being made that the furniture is now recognized as a major American style. Its essential quality is simplicity. Eschewing ornamentation, the Shakers made furniture that not only was eminently practical and honest but also possessed a restrained elegance. Often giving the appearance of great delicacy, Shaker pieces are nonetheless constructed on sound and sturdy principles and have been the original inspiration for many a woodworker attracted by their straight lines and lack of ornamentation.

Arts and Crafts, 1890-1920

Signature Roycroft bulbous foot on tapered leg

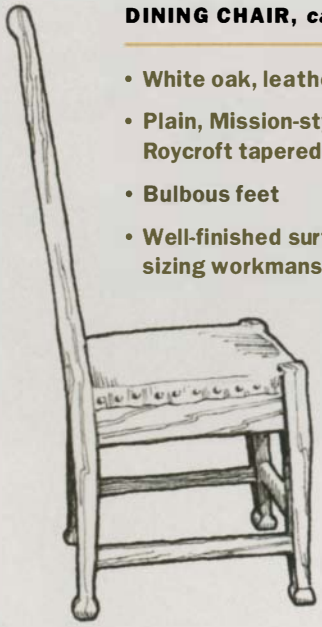
Reacting against the fashionable excesses and often shoddy work of mass production, the English designer William Morris inspired a generation of American furniture designers dedicated to honesty, utility and, above all, good-quality workmanship. Charles and Henry Greene, Gustav Stickley, Ralph Whitehead (who founded the Byrdcliffe Arts Colony) and the anonymous craftsmen of the Roycroft Community in East Aurora, N.Y., produced a body of furniture variously known as Mission, Arts and Crafts, and Craftsman furniture, which has remained popular—and distinct in style—to the present, taking its place as a legitimate major American style.

Roycroft logo, stamped on most pieces



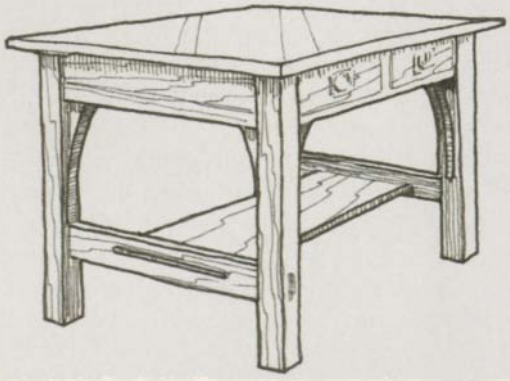
DESK, 1904

- Design by Greene and Greene
- Structural elements emphasized as design features
- White oak
- Protruding dowel ends
- Through-tenons
- Oversized battens
- Locking escutcheons
- Butterfly keys
- Proud partition edges



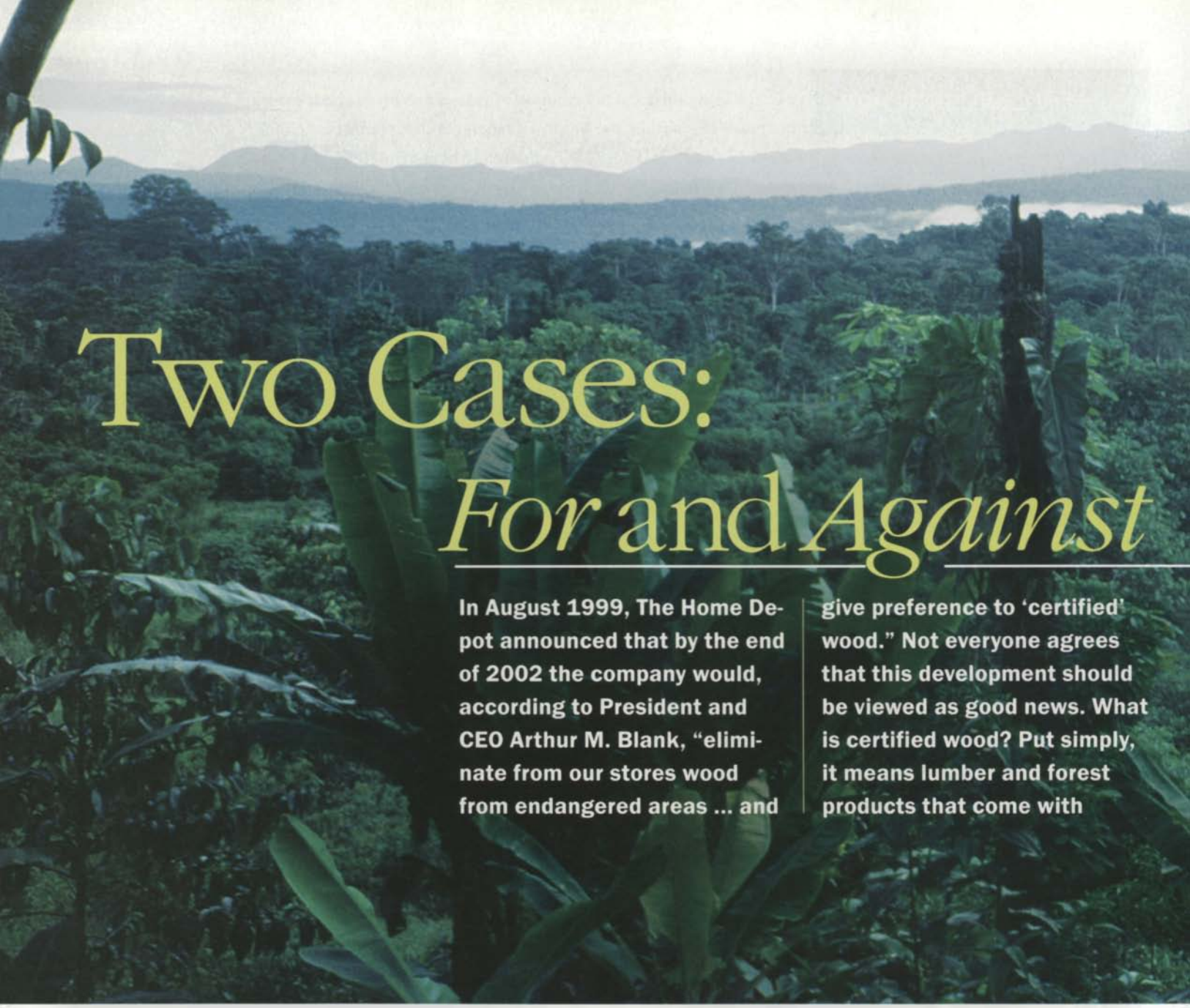
DINING CHAIR, *ca.* 1910

- White oak, leather seat
- Plain, Mission-style joinery with distinctive Roycroft tapered legs
- Bulbous feet
- Well-finished surfaces, with design emphasizing workmanship



LIBRARY TABLE, *ca.* 1910

- Fumed white oak typical of Stickley furniture
- Rectilinear, with reverse flying-buttress corbels
- Exposed mortise-and-tenon joinery
- Structural integrity embodied by post-and-lintel design system
- Handwrought hardware



Two Cases: *For* and *Against*

In August 1999, The Home Depot announced that by the end of 2002 the company would, according to President and CEO Arthur M. Blank, "eliminate from our stores wood from endangered areas ... and give preference to 'certified' wood." Not everyone agrees that this development should be viewed as good news. What is certified wood? Put simply, it means lumber and forest products that come with

Why I support forest certification

BY SCOTT LANDIS

Almost 30 years ago, when I was building a log cabin on the Bagaduce River in Maine, I stalked the moist, coastal forest in search of straight northern white cedar trees. Such specimens were hard to come by, even then, but that didn't prevent me from chopping them down when I found one that would make the grade. Later, when I was learning to make snowshoes in Ontario, I slogged through swamps in the boreal conifer forest hunting for a handful of black ash trees.

Woodworkers are unique among artisans in the direct, tactile relationship they maintain between the living source of their material and the defining qualities of their finished products. Rare is the piece of furniture (or boat, or guitar) that does not reveal through its form, texture, grain, scent or color something of the life of the tree and, by extension, the forest from which its wood was drawn. There are plenty of practical reasons to be concerned about the erosion of our forest estate: the increasing cost and declining quality of lumber; the loss of vast tracts of ancient forest habitat; and the disappearance from the marketplace of wood species that

Photo: Scott Landis

Certified Lumber

"chain-of-custody" documents that prove they have been judged to originate from sustainably managed forests. Who does the judging? For-profit (Scientific Certification Systems) and nonprofit (Smart Wood) organizations. Certified lumber is a complicated issue, charged with passions from all sides of the political spectrum. What follows are two opinions on this issue by two longtime *Fine Woodworking* contributors.

Why certified wood will not save the rain forests

BY JON ARNO

When a noble cause falls into the hands of the inept, even though intentions are good, harm prevails. I can think of no clearer example of this than the current movement toward certification programs in the lumber industry.

That a real and present crisis exists with respect to preserving the world's remaining rain forests, there can be no doubt. While such forests originally accounted for more than a third of Earth's terrestrial biomass and were still virtually intact at the end of World War II, substantially less than half of them remain today. If our only goal as conservationists was to preserve these pristine environments, that alone would be a noble cause, but the need to do so extends far beyond protecting the beauty of nature. These forests contain a disproportionately large number of the world's species of flora and fauna, representing a vital gene pool for future advancements in medicine and agriculture.

At the present time, less than 2% of these tropical species have been carefully analyzed for their pharmacological and commercial potential. If we squander this resource while we are mired at our

were once commonly available (Brazilian rosewood, Caribbean mahogany and Port-Orford cedar come immediately to mind). But, to me, the most compelling argument for expanding our notion of workmanship to include the quality of forest management is the emotional content of a stick of wood.

Until forest certification emerged in the last decade, there was no way for woodworkers or consumers to verify the provenance of their wood or to use the power of their purchases to support good forest management, unless they managed the trees themselves or happened to know the logger who felled them. Certification of forestry practices arose, in part, out of the bitter confrontations that took place in the late 1980s and early 1990s between environmentalists dedicated to protecting old-growth forests from harvesting and members of the timber industry whose livelihoods depended on it. The Rainforest Action Network launched a boycott of tropical timber in 1987 in the hope of quelling fires then raging across the Amazon basin, which many people feared would lead to an incalculable loss of habitat and species. In 1993, during one of the largest acts of civil disobedience in Canadian history, more than a thousand forest activists were arrested at Clayoquot Sound on Vancouver Island for blocking the logging operations of MacMillan Bloedel Ltd.

I NOW SEE THE FOREST AS MUCH MORE THAN A WAREHOUSE OF RAW MATERIALS TO SATISFY MY INDUSTRY.

Certification offered a middle path, a place where moderate environmentalists and responsible forest managers might find common ground. Bankrolled by private foundations and mainstream environmental groups, it was conceived as a tool for defining sustainable forest management and then recognizing its practitioners, so they might be rewarded in the marketplace with higher prices or stronger demand. (Privately, the concept was sold, in part, as an inoculation against protest.) As defined by the newly minted Forest Stewardship Council (FSC) in 1993, lumber certification was all carrot and no stick. Because it would be voluntary and independent, it therefore distinguished itself from government regulation and the self-promoting claims of the industry.

The FSC went on to establish guidelines for good forest management, which are applied to regional and site-specific operating standards by FSC-accredited certifiers. (As of this writing, seven such agencies have certified almost 45 million acres around the world according to FSC criteria.) In its attention to such issues as biological diversity, riparian systems, the use of pesticides, clear-cutting, rare or endangered species, land tenure and fair labor practices, certification goes far beyond the "plant a tree for every tree cut" mantra that has characterized industry claims of sustainable forestry. As a tool for enhancing the scrutiny and transparency of forest practices, it is unprecedented.

Certification did not invent forest stewardship, and it is no panacea. It requires an up-front investment, which may be expensive for small landowners, though costs have been mitigated by new group-certification programs and by efforts to certify forest managers rather than individual small properties. Thorny issues of poverty and injustice, which underlie much deforestation in the developing world, have not been addressed. Certification's focus on good management does not identify forests that ought to be left alone, and it does not eliminate the need for regulation or the need to curb our outsized appetite for wood. Perhaps most critically, the much-heralded "green market" for wood products from certified forests is only just emerging.

Despite these limitations, there are strong signs that certification is here to stay. The FSC model, which was ferociously attacked by many in the timber industry, has now helped shape several competing schemes. These include certification programs developed by the American Forest and Paper Association and the Canadian Standards Association. The World Bank and the World Wildlife Fund have committed to certify nearly 500 million acres worldwide by 2005. Perhaps most significant was last year's pledge by The Home Depot to stop selling wood from environmentally sensitive areas and to give preference to certified wood. The Home Depot's new policy has already resulted in a flurry of certification activity among major timber companies in Canada, where much of the company's lumber originates. (MacMillan Bloedel Ltd., erstwhile nemesis of Greenpeace activists, vowed to phase out clear-cut harvesting in British Columbia and applied for FSC certification of some of its holdings in 1998.)

When I walk through the woods, I will continue to stock my imagination with unbuilt projects for my shop. But I now see the forest as much more than a warehouse of raw materials to satisfy my industry. After several millennia of forest exploitation—from the Romans who plundered North Africa and Europe to our own forebears who mined the forests of New England, Wisconsin and the Pacific Northwest—certification may be the first real fulcrum with which to balance society's narrow industrial needs against the broader values of forest ecosystems. Certification won't solve all of our forest-management problems, but in less than a decade it has provided a framework to address some of the most important issues. Unlike our ancestors, we now know where the forest ends. Maybe we can yet learn how to make it last. □

Scott Landis edits Understory, *a journal of the Certified Forest Products Council, and he coordinates the Green Wood Project in Central America for Aid to Artisans.*

current level of scientific understanding, it is humanity's future that will be mortgaged.

The cause is just, but it is the proposed solution that we as concerned woodworkers need to examine with clarity. First of all, the proponents of lumber-certification programs have succeeded in promoting what amounts to a guilt trip among us, suggesting that the lumber industry and the wood users represent the central problem. This simply is not true. The cause for the decline in the world's tropical forests is the alarming increase in human population. Statistics provided by the World Wildlife Fund and the *Almanac of Science and Technology* agree that fully two-thirds of the exploitation of these forests results from their use as a source of fuel wood or from their wasteful removal to provide land for crops and pasture. Even the portion that is logged is not harvested strictly for export.

THE CAUSE FOR THE DECLINE IN THE WORLD'S TROPICAL FORESTS IS THE ALARMING INCREASE IN HUMAN POPULATION.

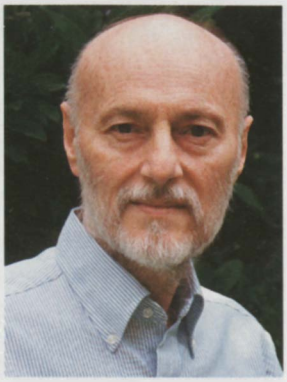
The truly tragic impact of these certification programs is that they will ultimately accelerate the alternative use of tropical forestlands at an appalling cost to the biodiversity of these regions around the globe. The countries where these forests are located have both a social and an economic imperative to feed their populations and to protect their fragile economies. If, by economic boycott of their old-growth timber, we render it worthless to them, they will destroy what they do not need for domestic consumption and quickly find alternative uses for the acreage. It is not that they or their governments are ignorant of the need to preserve this precious resource for all of humanity but rather their more imminent and desperate needs to feed their children and stave off economic destitution. In a like situation, we in the prosperous industrialized nations would react the same way, as indeed our 19th-century ancestors did when they cut and burned our vast Midwestern forests primarily to establish homestead farms.

By the measure of our past deeds, we clearly lack the moral right to dictate to other countries how they should manage their resources. However, beyond the issue of morality, we cannot forcefully impose our will on them, nor do we have the intelligence to do so wisely even if we could. The unadulterated truth is that our current understanding of forestry is too feeble. We don't know in detail exactly how rain forests work.

There are dozens, if not scores, of totally unique ecosystems in the tropics that we casually lump together under the generic heading of "rain forests." Each contains a separate community of species bound together in a precarious balance of symbiotic relationships that make them dependent upon each other for their survival. These species, many of them even yet to be formally classified, account for perhaps as much as 90% of all the terrestrial plant and animal species on earth. And we are being asked to believe that the self-appointed experts offering these certification programs have the wisdom to dictate how these environments can be exploitatively managed. It is still uncertain whether we are currently managing our own far less complex temperate forests in a sustainable fashion. It is pure hokum for the proponents of these certification programs to suggest that they have the technical expertise to certify that their clients are operating on a sustainable-yield basis that preserves biodiversity. Under sustained exploitation, a rain forest quickly becomes a tropical plantation, and the two are not even remotely synonymous.

Basically, the game being played here is an extortion racket. The misguided leaders of this certification crusade have duped well-meaning woodworker-consumers into backing their cause and—on the strength of this support—are forcing Third World producers who own the timber to buy the right to market their own forest products on an export basis. Our domestic mass retailers are succumbing to the pressure because they perceive that it's what their customers want. And customer satisfaction is their second-highest priority, exceeded only by their desire to coin a profit. The added burden incurred by the Third World producers to pay for certification shows up as an increase in the retailers' cost-of-goods-sold, onto which the retailers apply their standard profit margins. In other words, the helpless producer simply passes the cost along, the retailers enjoy higher absolute profits, and we woodworkers end up paying for the warm, fuzzy feeling that we've done our bit for conservation. The end result is that everybody is happy. Everybody, that is, except Mother Nature.

Our true conservation goal should be to preserve biodiversity. We must prevent exploitative intrusion of any kind into as much of the world's remaining rain forests as we can. Given the ongoing explosion in human population, it's unreasonable to assume that we can save them all, but we must save segments that are viably large enough to preserve the complex biodiversity that has evolved over millions of years. The only ethical way to do this demands taking title to the land or, at least, to the timber rights. In other words, we must compensate the Third World for retiring these resources on our behalf. We cannot simply tell them to do so, because they do not have the means to unilaterally set them aside. Some conservation groups, such as The Nature Conservancy, have embarked on this correct strategy, but their efforts are woefully underfunded. □



Jon Arno, retired from his woodworking pursuits, spends his time writing mostly about underutilized domestic hardwoods.

Wood Carving Has Been My Life

A European-trained master says learning and teaching are the essence of her craft

BY NORA HALL

I got into carving by accident. The accident was World War II. I was supposed to go to college to study art, but the war broke out. My family and I were forced to leave Amsterdam and go to the countryside, where there was food. My father, who was one of the best-known carvers in Europe, was still filling orders for furniture carving. So he said to me, "Why don't *you* try carving?" I had never had a tool in my hand. The first day I carved from 11 a.m. to 10 p.m. I loved it.

In the beginning, I carved beads in long boards for days and days, to learn how to carve with the grain. When I carved my first leaf, I was so excited and so proud because I thought it was wonderful. I showed it to my father and said with obvious excitement, "Look at this."

He studied it and snarled, "That's not a leaf. That's a beefsteak." I thought it was beautiful, but it was not up to the master's standards. So he made me carve some cuts and designs over and over again.

Gothic furniture was popular at the time, and it was a perfect style for me to learn because the designs were relatively simple. My art background eventually led my father to allow me to design crests to be carved into the backs of chairs. My father was the biggest influence on me, but I also learned from observing all of the beautiful art that was around us in Europe. I particularly remember one small, early 15th-century church. I could study the carvings and get close enough to see the tool marks. I could tell how the artisans had made their cuts 500 years before.

Most of this issue of *Fine Woodworking* is a celebration of how woodworking has progressed in the past 25 years. The thing about carving is that it hasn't changed much. With the exception of new rotary tools, a wood carver's gouges, chisels and knives are pretty much the same. And even carving styles haven't been altered all that much since Art Nouveau and Art Deco early this century. I've been carving for six decades, and I'm still doing it the way my father taught me. And he learned in the European tradition that has been around for hundreds of years.

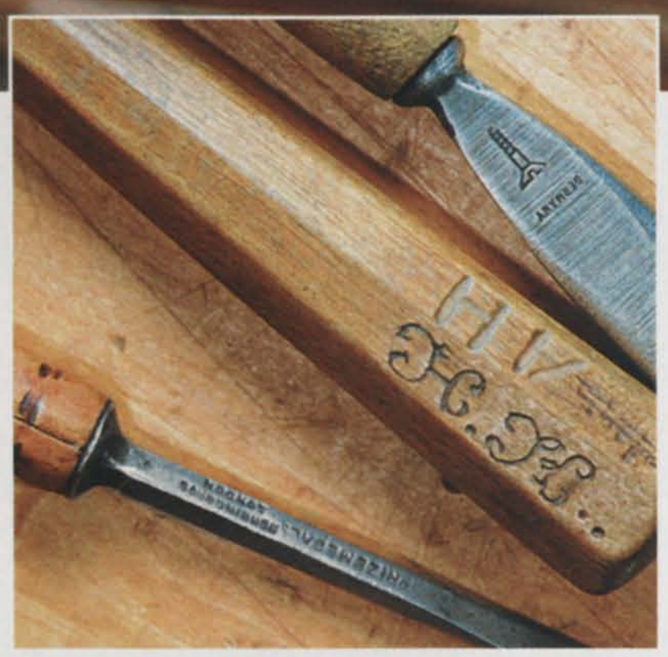
Carving skills are honed through duplication and repetition

Wood carving is movement. By nature it is more physical than cerebral. There are

I start
the actual carving
by taking little cuts,
not big, scooping cuts,
and I continue with little
cuts through the entire
carving.

subtleties within subtleties, and as with dancing or riding a bicycle, only so much can be explained or described before a new student must eventually delve in—preferably under the critical eye of a master. At its foundation, instruction is nothing more than duplicating the teacher's movement and postures repetitiously until these techniques become second nature. Perhaps other woodworkers could learn from carvers. They just have to repeat cuts over and over again before the movements become skills. In my classes I demonstrate techniques. The students observe and then duplicate them many times over. At this early stage of carving, there are no shortcuts. As an apprentice under my father, I was required to duplicate a particular cut many times—sometimes for hours.

My father also learned this same way when he was a young apprentice. With me, he was carrying on the well-worn master-apprentice tradition. In this way it was not unlike studying the violin or cello under a strict music teacher. However, in the master wood-carver's studio, the object was to move the apprentice quickly from the position of novice to the



Her work leaves an impression. *Nora Hall carves the same way her father did—using techniques passed down from the European masters. Hall expresses herself through her carving, adding her own distinct style and personality to a piece.*

Photos: David L. Minick

point where he or she became an economic asset. Under these pressures the method of instruction through the years became finely honed. Each master wood carver had his own individual personality and style. Yet, remarkably, most of the techniques and methods remained similar throughout the centuries. This is why European wood carving has such an easily identifiable stamp. This common thread—genetic code, if you will—is a result of a distinct approach to wood carving that starts with the fundamentals.

These fundamental techniques are as valid today as they were centuries ago. There are not many, and they are not complex. In truth, they are based in such a common-sense approach that even my self-taught students who have been carving for years are surprised and relieved to discover just how logical these techniques actually are. In addition, and to my greatest satisfaction, they then realize how much they improve in just one session. Even wood carvers who have no intention of carving in the old-world European styles come away with a knowledge that is readily applied to any and all styles.

In the process of carving a piece, you get so involved that you tune out everything else. It has a definite calming influence.

Carvings should have personality

I teach people to carve with both hands. Within an hour of carving with your opposite hand, you get used to it. The advantage is that you don't always have to turn your work or constantly contort yourself to carve. I always start with a pencil drawing on the wood, and I keep redrawing on the wood as I go because carving removes the pencil lines. Even if I'm merely copying, I use the pencil like a ruler to measure the original piece and then transfer the measurements to the new carving.

I start the actual carving by taking little cuts, not big, scooping cuts, and I continue with little cuts through the entire carving. It's so much easier to learn that way, too. And I don't make the stop cuts that some carvers make when they start a carving. Stop cuts move the wood instead of removing the wood. The old masters started by lightly removing some wood. In novices there's a temptation to undercut a relief carving to make it look alive. It succeeds only in making the carving look like it is glued on rather than carved into the wood. It's not perfection that makes a carving beautiful. It's beautiful because it comes to life. That's the goal. The stuff mass-produced by factory machines is perfect, but it has no life.

I really believe I could teach the skill of carving to anybody. I tell people, "Just carve every day for 15 minutes." That's the secret. If you skip one day, you'll skip another, and then you drop the whole thing. When students stay with it, suddenly they discover that their tools will do exactly what they want them to do. And when they get their tools to do what they want, they'll love it. When you get over that hump, then the whole beautiful world of carving is right in front of you.

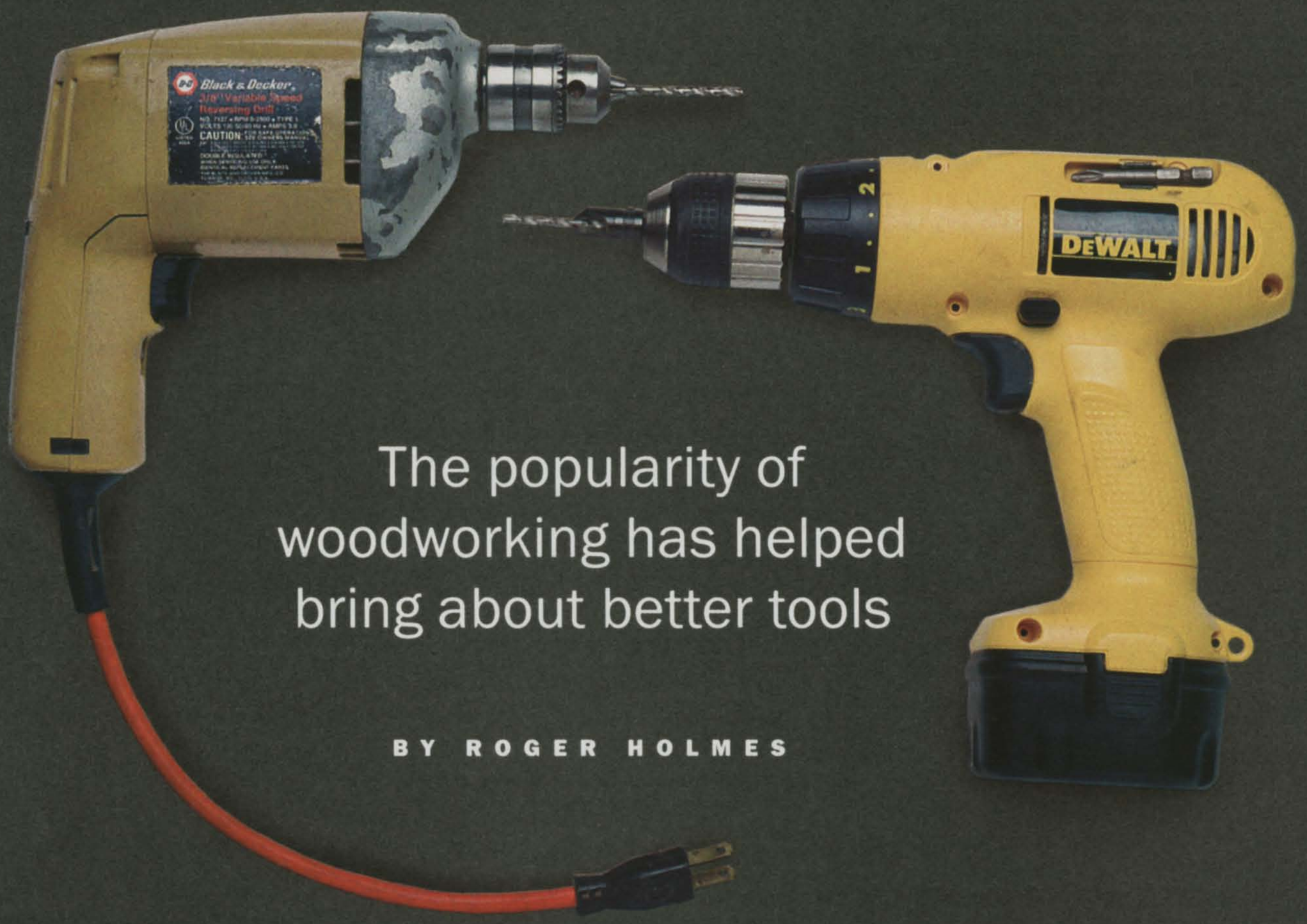
Some students ask, "Is carving art, sculpture or craft?" I think it depends on the work you do. Of course, not everybody is an artist. I call myself a wood sculptress, because people confuse carving with whittling. Carving is a skill. So if you are merely duplicating other carvings, it's probably just a craft. But I want to express myself in the wood and put my own personality in it. People who know my work, for example, can recognize my hand in a piece they've never seen before. It is distinctly mine. And, as with other woodworking, the mark of the hand and the mark of the tool give a piece personality and originality.

A good carver is a happy carver

Carving is such a wonderfully creative outlet. It makes you happy because you can express yourself—through your skills, through your eye, through your tools and through the wood. In the process of carving a piece, you get so involved that you tune out everything else. It has a definite calming influence. If I don't carve for a few days, I get restless. Carving is good for tense or anxious people, because they tend to want to do very difficult things too fast. It slows them down. For me, carving keeps me sane. And it puts me in that lucky group of people who can say that the very thing they are most passionate about is also their occupation. □

Nora Hall lives a very short distance from the Pacific Ocean in Cloverdale, Ore.

Tools: Then and Now



The popularity of woodworking has helped bring about better tools

BY ROGER HOLMES

It was the *Whole Earth Catalog* that finally solved my tool problems. The year was 1971. I'd dropped out of college and decided to become a woodworker. A real woodworker. A solid-wood, mortise-and-tenon, curly shaving, hand-tool woodworker. I rented an old neighborhood grocery store in my hometown, Lincoln, Neb. I cobbled up a basic set of hand tools from the collection gathering dust on the wall of my dad's shop. Good stuff. Old Stanley and Bedrock planes, a Disston ripsaw, a set of Marples butt chisels Dad had discovered in a filling station being used to scrape grime off engine blocks.

But I needed a panel saw, dovetail saw and block plane. And I wanted a lot of

Timeline: 25 years in the business of woodworking

1975

Paul and Jan Roman publish the first issue of *Fine Woodworking*.

Shiraz Balolia starts Grizzly Imports, an importer of metal and woodworking tools from Taiwan.

1976

David Keller introduces the Keller dovetail jig.

1977

J.A. Fay & Egan Co. (Est. 1830), the world's oldest manufacturer of woodworking machinery, files for bankruptcy.

Sprunger Brothers Inc. (Est. 1946), manufacturer of light woodworking machinery, is sold to Dale Fahlbeck.

1978

Yates-American Machine Co. celebrates its 100th anniversary.

Wally Kunkel opens the Mr. Sawdust School for professional woodworkers.

other stuff I didn't yet know how to use. Stuff I'd seen in English craftsman Ernest Joyce's 1970 book *The Encyclopedia of Furniture Making* (a revised version was published by Sterling in 1987), my only window into the world of real woodworking. Trips to the local hardware stores were discouraging. Dovetail saw? Shoulder plane? I might just as well have asked for tea and crumpets. And, ignorant as I was, I knew the store's shiny new smoothing plane with the stamped sole didn't measure up to my dad's old cast-iron Bedrock.

Today, as I sit at the computer within arm's reach of two running feet of woodworking catalogs and just a few keyboard strokes away from thousands of woodworking sites on the web, the yellowed, dog-eared pages of the *Whole Earth Catalog* still seem magical to me. It was in them that I discovered Constantine's, Craftsman Wood Service and Woodcraft Supply. "... A unique enterprise ...," said the *Whole Earth Catalog* of Woodcraft, "[that] publishes a large-format illustrated 30-page catalog full of tools that you will never see anywhere else." And there, in a nutshell, is the difference between then and now. Today it seems those once-obscure tools are everywhere. Half the catalogs on my shelf sell them and hundreds more. More hand tools, more machine tools, more finishing equipment, more clamps, more accessories, more gadgets. More of everything. Lots more.

In the spring of 1971, excited beyond rationality at my discovery of another portal to the world of real woodworking, I drove 1,300 miles to visit Woodcraft. The company had recently moved from Boston, where it was founded in 1928 by George Eaton and Richard Merrill, to more spacious quarters in Woburn, outside the city. The showroom floor was crammed with smaller industrial power tools, sold locally, but the walls were festooned with the marvelous hand tools I had come for (see the photos below left). I bought what I could afford and spent several hours coveting all the ones I couldn't. I talked about sharpening for half an hour with an older man behind the counter. Just before I left, he gave me a lump of rottenstone for making a strop. The man, I later learned, was Merrill. I still have the stone.

It turns out that I wasn't the only person who discovered Woodcraft through the *Whole Earth Catalog*. According to current Woodcraft catalog director, Ken Kupsche, it was the *Whole Earth* listings from 1968 to 1971 that jump-started the company's mail-order hand-tool sales. By 1975, Woodcraft offered some 2,000 tools and had leased additional warehouse space in Woburn. Today, the company has 53 retail outlets. A recent catalog ran to 159 pages. Woodcraft has an extensive web site. It sells 7,000 to 8,000 different items. It ships to 70 countries. It grosses between $50 million and $100 million a year.

And Woodcraft is not alone. Since my 1971 pilgrimage to Woburn, Garrett Wade, Highland Hardware, Lee Valley, Woodworker's Supply and others have entered the market and flourished selling a broad range of high-quality tools. Dozens more companies sell narrower selections or specialties—Japanese hand tools, router bits and accessories, wood-turning equipment, sanding stuff, finishing materials, machine tools, portable hand tools, not to mention kits, books, hinges and hardware. Woodworking "fairs" and trade shows circulate around the country, allowing woodworkers a firsthand look at acres of vendors and manufacturers.

Woodcraft Supply, then and now. *In the 1970s, Woodcraft had one retail store located in Woburn, Mass. Only one of each item was displayed in the showroom; employees had to go to the warehouse to get stock when a customer wanted a purchase.*

Photos, this page (bottom): Courtesy of Woodcraft Supply

1979

Jet, then a metalworking tool importer, begins importing woodworking tools.

The University of North Carolina's Center for Public Television begins producing Roy Underhill's *The Woodwright's Shop*.

1981

Thomas Lie-Nielsen starts his hand-plane shop in a Maine garage.

Ken Grisley introduces the Leigh dovetail jig.

The *Woodwright's Shop* begins airing nationally on PBS.

1982

John Economaki starts Bridge City Toolworks.

Leonard Lee founds Veritas/Lee Valley Tools.

And retail stores specializing in woodworking have sprung up all over the country. Even Lincoln, with just 200,000 people, has one.

Things have certainly changed since I had to consult the *Whole Earth Catalog* for my tool-buying needs. But how, exactly? What are all these tools?

High-quality hand tools are again being made

In the early 1970s the quality and selection of woodworking hand tools in ordinary hardware stores had dropped to dismal levels. If you wanted traditional tools—planes, chisels, handsaws, mortise gauges—of traditional quality, you had two options. You haunted garage sales looking for Granddad's dusty tool box. Or, once you had found out about them, you ordered from Woodcraft, the Japan Woodworker in California and a few other specialty dealers selling mostly imported tools. By the mid and late 1970s, buoyed by a revival of interest in "real" woodworking, the number of vendors had increased, and their catalogs were well-stocked with quality basic traditional hand tools.

Lamello introduced the hand-held biscuit joiner. *The Classic C2 (pictured) is a more recent version of the original Minilo biscuit joiner.*

There are even more vendors and catalogs today, but the range of basic tools offered hasn't changed dramatically. Leafing through catalogs both new and old, it's not hard to find a full range of Record planes, a selection of Sheffield saws, chisels from half a dozen different countries. Most of the tools I bought in 1971—handsaws and chisels from England, wooden planes from Germany—are still being sold. Woodcraft no longer lists the Ulmia pearwood smoothing plane with a lignum vitae sole that I bought in 1971 for $15. But Garrett Wade's Primus is about the same thing, though it costs $168 today.

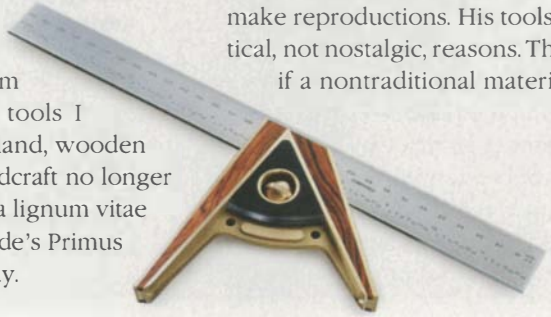
Old catalogs, however, do not feature Lie-Nielsen planes, Veritas miter clamps or Bridge City marking gauges for the simple reason that none of these companies existed then. Their appearance, along with a number of other small manufacturers of quality hand tools, is one of the most exciting developments of the last 25 years.

Several manufacturers have revived old tool patterns. You can buy modern versions of wooden panel-raising planes, wooden spokeshaves, a 3-in-1 shoulder plane and even choose between several versions of the famous English Norris and Spiers planes. Discontinued by their original manufacturers as the craft became less specialized and more mechanized, the originals have long been prized by aficionados. During the last 20 years or so, the woodworking world has broadened and deepened enough to create sufficient demand for new, often quite expensive versions of these old treasures.

Thomas Lie-Nielsen started his hand-tool business in 1981. *His planes are interpretations of classic Stanley and Bedrock designs.*

One of the best known revivalists is Thomas Lie-Nielsen, whose handsome planes are based on old Stanley and Bedrock designs. Lie-Nielsen was a tool buyer for Gary Chin's company, Garrett Wade, in 1981 when the firm lost its supplier of edge-trimming block planes. Lie-Nielsen figured he could do the job, so he bought out the old supplier and set up shop in a Maine woodshed. Within six months he delivered a batch of 100 planes to Garrett Wade.

Today he and more than 40 employees produce some 15,000 tools a year in their Warren, Maine, works, including 26 different planes and two recently introduced backsaws. Lie-Nielsen doesn't make reproductions. His tools are based on old patterns for practical, not nostalgic, reasons. These tools do a needed job well. And if a nontraditional material, such as cast manganese-bronze



Looks are not deceiving. *Tools from Bridge City Toolworks, such as this CS-12 combination square, are refined in looks and function.*

Photos, this page (clockwise from top left): Colonial Saw; Lie-Nielsen Toolworks; Bridge City Toolworks

Timeline: 25 years in the business of woodworking *(continued)*

1984

Rockwell sells its Stationary Power Tool Division (formerly Delta Mfg. Co., Est. 1919) to Pentair Inc. Delta International Machinery Corp. formed. Delta name returns.

Black & Decker Mfg. Co. celebrates its 75th anniversary.

1985

The Irwin Auger Bit Co. celebrates its 100th anniversary.

Ryobi introduces portable 10½-in. benchtop planer.

1986

Performax unveils a drum-sander attachment for the radial-arm saw.

Delta begins importing tools manufactured in Taiwan.

The popularity of recreational woodworking created a big market for high-quality tools. *Many home-shop machines, such as the ubiquitous Delta 14-in. bandsaw, are scaled-down versions of larger industrial machines.*

for a plane body, will do a better job, he uses it.

Two other entrepreneurs who strive for the same kind of quality are John Economaki of Bridge City Toolworks and Leonard Lee of Veritas. Economaki's line of brass, steel and wood-trimmed marking and measuring tools are original designs, as beautiful and accurate as they are expensive, though price doesn't seem much of a deterrent to buyers. Established in 1982, the former shop teacher's Portland, Ore., company produces 30,000 to 50,000 tools a year in more than 70 different original designs.

Lee's woodworking tools are more eclectic than any of his manufacturing brethren's, running the gamut from log scribes and plumb bobs to planes and jigs and fixtures for clamping, drilling and routing. Lee is an old-fashioned tool tinkerer who itches to see whether he can solve a problem or improve someone else's solution. Since the company's first tool in 1982, Veritas has produced about 140 products, 100 of which are original designs.

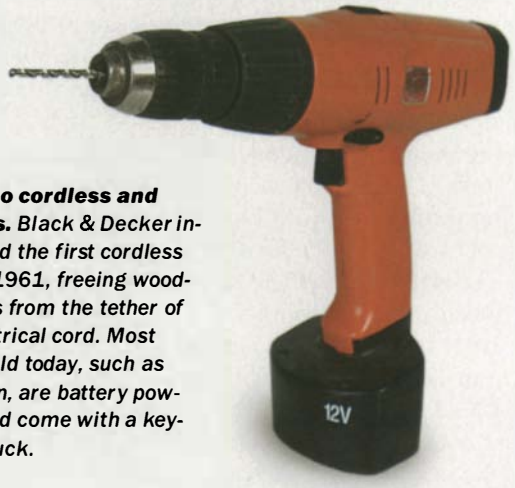
The company manufactures its own tools and has managed to price most of them in the mainstream range. This year, sales of Veritas woodworking tools will approach 750,000 items. Meanwhile, Lee has turned his attention to surgical tools to satisfy his tinkerer's itch.

Lie-Nielsen, Economaki and even Lee are small fish in a big pond, with combined sales that would barely register on Stanley's radar screen. There are smaller fish in the pond, too. Advertisements for planes, chisels and other hand tools made by small manufacturers (some one-man shops) have been sprinkled throughout the pages of woodworking magazines for 20 years. Some may grow into Lie-Nielsen's or Economaki's league. Others may disappear. That there are woodworkers enough to support this revival of quality hand-tool making at all is remarkable, a development I certainly wouldn't have predicted 25 years ago.

Big machines have gotten smaller

It's one thing to make edge-trimming planes in a Maine woodshed and quite another to manufacture a tablesaw in your garage. As the tool gets bigger and more complicated, so do requirements for prototyping, tooling and manufacturing. The evolution of stationary woodworking equipment for small professional and home shops, for the most part, has been effected by making big machines smaller. The 14-in. bandsaw and 6-in. jointer in your garage are likely to be downsized clones of the production equipment at a millwork shop. This shrinkage began in the 1920s and was more or less complete by the 1950s, when lines of home-sized tablesaws, radial-arm saws and jointers were available through Sears and other widespread distributors.

In the early 1970s, having set out to be a hand-tool woodworker, I soon realized that if I wanted to have any chance of making a living woodworking, I'd need at least basic power tools. As with hand tools, there was a ready local supply of lightweight, not-great machines churned out for the home handyman market. Unlike hand tools, however, there were also sturdy, well-made small-shop tools made by Delta, Powermatic, General and other North American manufacturers, tools that I could order through local distributors. Now the problem wasn't quality but price. I coveted a Unisaw, but at about $750, I couldn't afford a new one.



Drills go cordless and keyless. *Black & Decker introduced the first cordless drill in 1961, freeing woodworkers from the tether of an electrical cord. Most drills sold today, such as this Fein, are battery powered and come with a keyless chuck.*

Photos, this page and facing page: Anatole Burkin

1987

Parks Woodworking Machine Co. celebrates its 100th anniversary.

1988

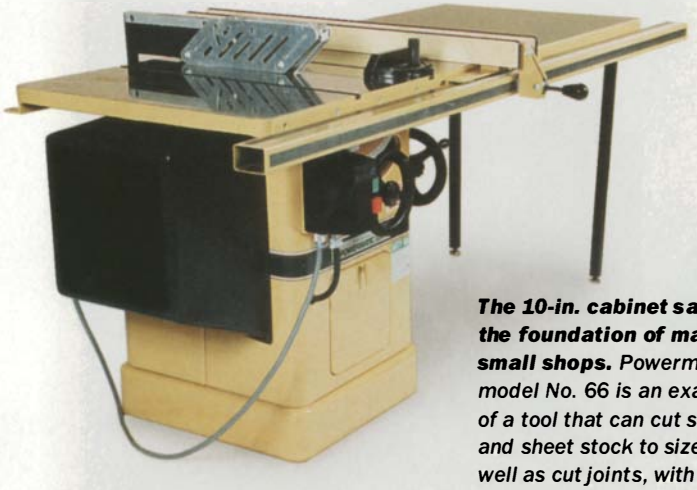
Powermatic begins importing Taiwanese tools under the Artisan label.

Walter Meier Holding Co. of Zurich, Switzerland, buys Jet Tools.

1989

Parks Woodworking Machine Co., pressured by foreign competition, ceases manufacturing woodworking machinery.

Lancaster Machine Co., manufacturer of the former DeWalt line of industrial 14-in. to 20-in. radial-arm saws, files for bankruptcy.



The 10-in. cabinet saw is the foundation of many small shops. *Powermatic's model No. 66 is an example of a tool that can cut solid and sheet stock to size as well as cut joints, with the proper accessories.*

Twenty-two years later, while outfitting my present workshop, I paid the same price for a brand-new saw very much like the Unisaw. Not inflation-adjusted. The same price. During the 1970s and 1980s enterprising industrialists began producing copies of American machinery in Taiwan and other countries on the Pacific Rim. The early ones were a bit rough, but today good-quality imports are available.

Because of the imports and efficiencies in U.S. manufacturing, prices for machine tools have crept up at a fraction of the rate of inflation. Inventiveness has resulted in benchtop tools that have taken the place of large machines. Back in 1985 Ryobi introduced a portable 10½-in. benchtop planer, a tool that cost under $400, less than half of what a small stationary machine would set you back. Today there are a dozen portable planers that handle stock as wide as 13 in., and most of these cost less than $500.

In addition to choice among a wide range of inexpensive lightweight machines, small shops are now able to afford larger tools, replacing contractor saws with cabinet saws, and 6-in. jointers with 8-in. and even 12-in. machines. Cast-iron planers can be had for less than $1,000. Hollow-chisel mortisers, wide-belt sanders, dust-extraction equipment and a few other machines rarely seen outside production shops in the past are now marketed in downsized versions for small shops.

Multico brought us the benchtop hollow-chisel mortiser. *Before Multico, these machines were large and heavy. Now there are many sizes and brands from which to choose.*

Designs new to the North American market have also appeared in recent years. Ryobi and DeWalt have introduced tablesaws incorporating sliding tables, a common feature of European saws. Several firms sell European combination machines, which merge up to five tools in one (sliding-table tablesaw, shaper, jointer, planer and horizontal mortiser). Long popular in small European shops, these machines appeared on the American market in the early 1980s. Small models sell for as little as $1,000. For about $6,000, you can get a very high-quality 10-in. tablesaw, shaper and 12-in. jointer-planer. Though this is a substantial outlay for a small shop, most of these machines are sold to amateurs.

Sliding tables were once found only on machines weighing in the tons and costing as much as a new car. *DeWalt now offers a compact sliding table for its 10-in. tablesaw.*

There's a huge selection of portable power

A tour of the portable power-tool section of almost any hardware store or mail-order catalog reveals rows of well-designed, well-made tools in variety and number unimaginable 25 years ago. As

Timeline: 25 years in the business of woodworking *(continued)*

1990

Bosch introduces "Clic" toolless blade-changing mechanism on its jigsaws.

Bob Eden purchases Lancaster Machine Co.'s assets and establishes The Original Saw Co. to manufacture the former DeWalt line of 14-in. to 20-in. radial-arm saws.

Henry Disston & Sons (Disston Inc.) celebrates its 150th anniversary.

1992

Black & Decker (DeWalt Industrial Tool Co.) introduces the DeWalt line of portable power tools.

Bosch purchases Skil Corp.

1993

Tannewitz, famous for bandsaws, celebrates its 100th anniversary.

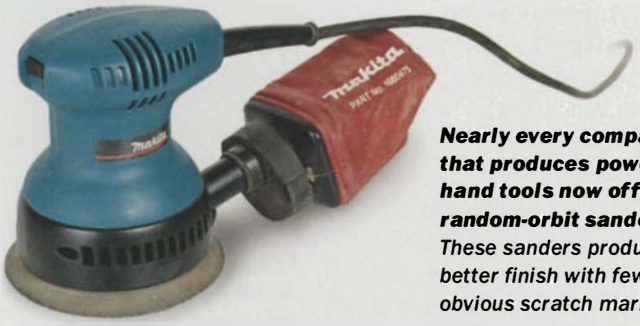
1995

Northfield Foundry & Machine celebrates its 75th anniversary.

with stationary machines, competition between imports, such as Ryobi, Makita, Hitachi and Bosch, and home-grown companies, such as Porter-Cable, DeWalt and Milwaukee, has increased choice and ratcheted up quality while holding down prices.

Improvements and innovations abound. Compact, powerful motors have reduced size and weight while increasing capacity. Battery packs have untethered tools from electrical outlets. The cordless category now includes circular saws, reciprocating saws, a biscuit joiner and even a miter saw. Small changes, such as keyless chucks, enhance convenience.

Several portable-tool innovations that hit the American market in the past 25 to 30 years stand out in particular. The biscuit, or plate, joiner has revolutionized cabinet construction. Splined joints have been around for centuries, but this tool constitutes such a vast improvement over any previous method of making them that you almost have to think of biscuit joinery as a new type of construction.



Nearly every company that produces powered hand tools now offers random-orbit sanders. *These sanders produce a better finish with fewer obvious scratch marks.*

The random-orbit sander is easily the most effective and efficient surface-preparation tool for the small shop. For under $100, it offers a combination of stock-removing capacity, finish and control exceeded only by stationary wide-belt pad sanders costing thousands of dollars.

Finally, plunge routers added stopped dadoes, grooves and a range of mortises and slots to the router's already wide repertoire. Introduced in 1949 by the German firm Elu, plunge routers didn't enter the U.S. market in force until the 1970s. For many of today's woodworkers, the plunge router is indispensable. During the same period, lightweight, high-performance motors also beefed up router capacity. Mounted in homemade or commercial tables, 2-hp and 3-hp variable-speed routers give small shops many of the functions of a shaper at a fraction of the cost.

Although Elu introduced the first plunge router in 1949, the tools weren't common in U.S. shops until the early 1970s. *Plunge routers excel at cutting mortises because their depth can be changed quickly in stepped increments.*

And let's not forget to accessorize

Remarkable as the changes in the hand- and machine-tool markets have been in the last quarter century, they pale in comparison to the explosion of woodworking accessories, jigs and gadgets. The 1975 Spring-Summer Woodcraft Supply catalog offers not a single tool I'd include in this category. The March 2000 edition touts dozens. Rout-R-Lift, Hi-Gage, Just Plane Perfect, Bandsaw Duplicator, Stabilizer Bandsaw Guide, Grip-Tite Magnetic Featherboard, even a little family of accessories—Fasttrack's Drill Press System,

For such a modestly sized tool, the benchtop router table brings a lot of utility to the small shop. *Operations such as shaping, joinery and even jointing can be done using a well-designed router table.*

Photos, this page and facing page: Anatole Burkin

1998

Emerson Electric starts Ridgid line of woodworking tools.

1999

DeVlieg-Bullard, parent company of Powermatic, files for bankruptcy.

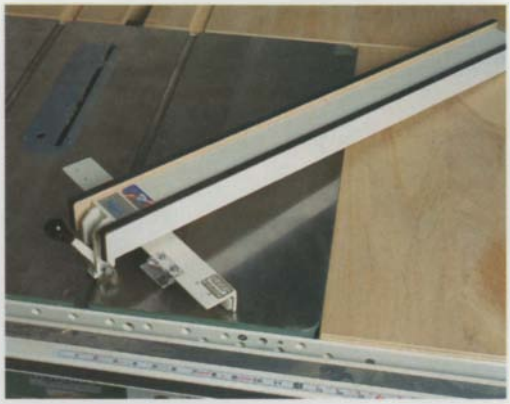
DeWalt introduces its first stationary machine, the model No. DW746 10-in. tablesaw.

Jet Equipment purchases Performax Products and Powermatic Corp.

Amazon.com buys out Tool Crib of the North's mail-order and on-line business.

2000

Porter-Cable introduces the first handheld oscillating spindle sander.

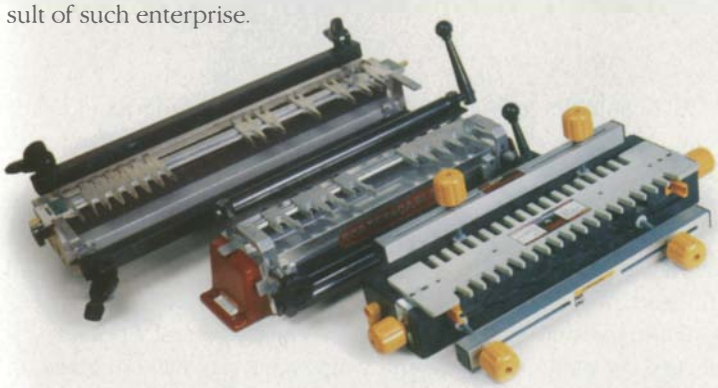


The Biesemeyer T-Square tablesaw fence is as solid as its name. *Bill Biesemeyer invented the fence after becoming frustrated with the standard fences available in the 1970s.*

Circle-Cutting Attachment and Resaw Fence. And that's just the catalog's first four pages.

Of course, there have always been woodworking accessories and gadgets for sale. But most jigs, fixtures and gadgets were shop-made. Everyone built odd little jigs to suit a particular project. Some woodworkers, however, developed a passion for tuning up their rip fence, developing a nifty stop system for the miter gauge or making elaborate router templates for housings, mortises, tenons and dovetails.

As interest in woodworking grew during the 1970s, a number of these tinkerers realized that they could sell their creations. Two of today's best-known woodworking products are the profitable result of such enterprise.



Seems not a month goes by that someone doesn't invent a new dovetail jig. *The Leigh jig (left) is the most versatile because it cuts dovetails and other joints, too. Also popular are the Porter-Cable (middle) and Sears (right).*

Like many woodworkers before him, Bill Biesemeyer was regularly frustrated by the clumsiness and wayward performance of his tablesaw rip fence. Unlike the rest of us, Biesemeyer did something about it. By the late 1970s he had perfected a new rip fence. By 1995, when he sold his business to Delta, about a half million Biesemeyer fences had been fitted to saws ranging from the roughest imports to shiny new Unisaws, and the Biesemeyer had become the small-shop standard for accuracy and ease of adjustment. Today, like the Unisaw, its virtues are reflected in how widely it has been copied.

In 1981 Canadian woodworker Ken Grisley made his mark by solving a problem tackled at one time or another by far more woodworkers than will admit to it—how to make "hand-cut" dovetails with a router. And American woodworker David Keller did the same. The two of them have sold thousands of these jigs to amateur and professional woodworkers alike. Today there are more than a dozen dovetail jigs on the market.

Cutaway view of a keyless chuck. *Jacobs Tool Co. makes many of the keyless chucks used on power drills.*

Compared to 25 years ago, today's tool-buying woodworkers choose from a bulging cornucopia. Old manufacturers have reinvigorated quality lines. New makers have revived discontinued tools and introduced new ones. Mail-order, retail and Internet vendors have ensured availability in even the most remote hamlets. What I find most satisfying in all this is the extent to which change has been driven by woodworkers. Quality tools are once again available because more woodworkers have demanded them. And, time after time, when you look behind a tool success story, you find someone like Ken Grisley, Thomas Lie-Nielsen, John Economaki, Richard Merrill or Leonard Lee, woodworkers and tool nuts who knew their fellow enthusiasts deserved better tools and did something about it. □

Roger Holmes is a former associate editor of Fine Woodworking. *He now lives, writes and works wood in Lincoln, Neb. He is the author of* The Complete Woodworker's Companion *(Watson-Guptill, 1996).*

Understanding Wood,

Knowing how different woods behave

BY GARRETT HACK

Wood challenges me constantly. In the flush of excitement after landing a large commission for a set of public library tables, I glossed over the client's chosen wood, black locust. When the library expanded a year before, a stand of these trees was cut down and sawn into lumber with the thought that the wood might one day return to the library and begin a new life.

All I knew about black locust was that it was a very dense and hard wood, often used for fence posts, that seemed to last forever. From what I could see of the boards as I loaded them into my truck, black locust was a beautiful golden tan with an elmlike grain. Because the boards had dried flat and true, I was hopeful that the material was also stable.

Back at the shop I didn't waste much time getting out my well-worn copy of R. Bruce Hoadley's *Understanding Wood* (The Taunton Press, 1980) to see what words of wisdom this fellow woodworker and wood scientist had about black locust. Over the years I have often searched this book for insight into the complexities of wood. With thousands of different species out there and with each tree unique, nailing down the characteristics of a particular pile of lumber seems an impossible task. But after reading Hoadley's book, I find wood much easier to understand. What I read about black locust was mostly reassuring: It's as stable as cherry; the wood is nearly as hard as hickory; and the pores are densely packed (making finishing easier and providing for a better writing surface). I wondered, however, why I'd never seen a piece of furniture made of the material.

The answer became clear when I began working the stock with handplanes. One moment I was getting smooth shavings, then suddenly tearout. It didn't seem to matter in what direction I planed, the locust was uncooperative. I went back to Hoadley's book and found out why. One characteristic of black locust is interlocked grain, spiraling one way and then the other. It gives black locust a flash similar to the best satinwood, for which it was sometimes substituted.

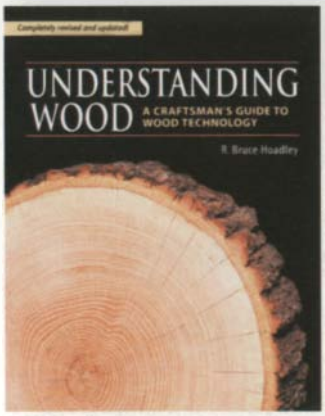
All I could think about was how much easier all this would have been if I had just used cherry, walnut or another traditional wood that was easily worked with hand tools. Many beautiful woods, such as bird's-eye maple or in this case locust, take twice the effort to prepare. But that's part of the adventure of using different woods. At least 34 different species grow on my modest wooded lot, and eventually I'd like to try them all.

While unusual woods have unique challenges, all wood is subject to shrinking, swelling and warping as the material gives up and absorbs moisture. Often this is the real challenge of working wood. You can either ignore wood movement and face the inevitable failures, as I did before I knew any better, or learn to work with it. Even after years of practical experience, I still regularly re-

Photos: Anatole Burkin

Thanks to Hoadley

makes one a better furniture maker



R. Bruce Hoadley at work and play. *When he's not teaching wood science at the University of Massachusetts Extension in Amherst, working on a forensic case involving wood samples or writing, Hoadley enjoys carving birds. His vast collection includes everything from life-sized goose decoys to delicate shore-bird specimens. A completely revised edition of his book* Understanding Wood *was published this fall.*

turn to *Understanding Wood* to learn a little more about wood's behavior. Take, for example, my large black locust tables, with wide tabletops and lots of potential wood movement. Hoadley explains that quartersawn boards would have been a good choice for a tabletop, because they are more stable than common flatsawn boards and the cells exposed on the surface yield a distinct appearance. Every board is indeed different, but this sort of information helps in both picking materials and then deciding which would be best for tabletops, aprons or legs.

Because I'm interested in using many kinds of wood, I often look in Hoadley's companion book *Identifying Wood* (The Taunton Press, 1990). Written for the layperson, the book walks you through the steps involved in identification. The only tools needed to get started are a razor blade and 10-power magnifier. Seeing end grain under magnification leads to a whole new appreciation of the structure of wood fibers.

But it is *Understanding Wood* that proves the most useful to me in my daily work. The tables on wood movement, for example, allowed me to figure out how much those library tabletops would likely swell and shrink through a typical year here in Vermont. For many years I've relied on measuring and recording the width of a wide pine board I keep tacked on the wall in my shop. It's very useful to get an idea of where we are in the cycle, but it can't tell me how much a 52-in.-wide black locust tabletop will actually behave. Hoadley's book includes tables for more than 100 common woods. This is just the sort of vital information I use when fitting a deep drawer or wide panel, saving me the embarrassment of a stuck drawer or blown-apart door.

Plenty of books have been written about the practicalities of making furniture, from cutting joints to applying finishes. Certainly the success of each project depends on properly cut joints and appropriate finishes. Less obvious and just as important are the subtleties of how the grain orientation in those joints affect their longevity. Or how some tools can cut the wood fibers for a surface with clarity and depth to produce a superior finish. Hoadley, a longtime contributing editor to *Fine Woodworking*, offers plenty of insights into how to work with wood intelligently. He makes wood seem not so challenging after all. Now, I might not take on another black locust project, but because of Hoadley I'll be better prepared if I do. □

Garrett Hack is a furniture maker and author from Thetford Center, Vt.

Professor Frid

A former student of Tage Frid describes the extraordinary experience of being taught by the Danish master

BY HANK GILPIN

Editor's note: Several months ago we asked Hank Gilpin if he would write something about his mentor, Tage Frid. Over the next few weeks we received a stream of postcards—Gilpin's favorite mode of communication—and we've reprinted them here. Gilpin, 54, now one of the country's top furniture makers, studied under Frid at Rhode Island School of Design (RISD) in the early 1970s and worked in Frid's shop for a time after graduation. Gilpin caught Frid in the middle of a teaching career—spent primarily at Rochester Institute of Technology and RISD—that stretched from 1948 to 1985 and spawned scores of woodworkers who became prominent in the field. Along with superior craftsmen, Frid's classroom also produced many of the best teachers of the next generation. The range of Frid's influence increased further when he began writing for *Fine Woodworking*. He has been a contributing editor to the magazine since the first issue and also wrote a trilogy of best-selling books for The Taunton Press.

Professor Frid walked into the shop dressed in a coat and tie, his thick, white, wavy hair perfect. He hung up his coat, rolled up his sleeves and tucked his tie into his shirt. He then turned and walked out of the shop into the alley. It was the first day of class, a basic woodshop course I'd opted for on a whim. A photography student, I had no real background in wood, but I needed an elective.

We could see Professor Frid through the open door, working with a mysterious contraption, something with a long tube all connected to pipes. He reentered the shop wearing canvas gloves and holding a long, skinny, steaming piece of wood. He quickly and purposefully walked to the front of the assembled students, said something I couldn't understand and proceeded to tie the steaming stick of wood into an overhand knot. Just like that, my life's path took a radical bend.

"Congratulations. You've just figured out the most complicated way to hold a board 30 inches off the floor."

Danish vaudeville

Early that semester, Professor Frid was giving the dovetail demonstration. He described the process very quickly in his thick, Danish-accented English, simultaneously joking with the guys and flirting with the women. So of course no one had a clue what he was talking about. It was like vaudeville, really. He was gauging and scribing and marking while mumbling something about tails and pins and half blind and half pins, still cracking jokes and fixing his tie. He made each cut in three quick strokes with a 3-ft. bowsaw, slapped down the wood, clamped it, dragged a chisel across it, chopped away some waste and then repeated the same actions on the next piece, which he'd marked off the first in a flurry of pencil swipes. He looked at us speculatively over the rims of his glasses, picked up the two pieces of wood and triumphantly tapped them together in a perfect fit. Some of us applauded; others backed away in awe. What a moment!

The simplest solution

Carcase dovetails were always difficult: wide boards, hard wood, lots of pins and tails. Putting glue on all the pins and tails took way too long, and then there was the peculiar problem of clamping.

Professor Frid was watching one of these exercises in bumbling futility—glue dripping, glue drying, odd clamping blocks and a tangled tonnage of clamps. He approached the chaos and told us to get rid of the clamps. He grabbed a hammer, a small block of wood and, laying the carcase on its side, proceeded to hammer the joints together, seating each tail with a single, precise blow. He repeated the process on the other side and quickly moved to another dilemma brewing across the shop.

What didn't he know?

Thursday morning was question-and-answer time in the shop. I was new to the field, and I'd spend hours in the RISD library, studying the history of furniture. A long list of technical questions piled up over the course of a week. Professor Frid agreed to sit down (which he really wasn't inclined to do, being a very energetic fellow) and patiently go over my list, one question at a time. He always had an immediate and clear answer. No period, style or technique stumped him. More often

Charisma and craftsmanship. *Blessed with a mischievous wit and a traditional European apprenticeship, Tage Frid, who came to the United States from Denmark at age 33, became a powerful teacher and mentor for three generations of American woodworkers. His mahogany cabinet illustrates his calm command as a furniture maker.*

Photos, facing page: Paul Roselli; this page: Susan Kahn

"The best tool is the eye. Train the eye. The eye guides your hands to achieve the form. If the eye says it's right, it is right."

than not he'd have two different technical solutions to offer: one of old tradition, focused on old tools and old technology, and the other emphasizing recent innovations in tools, machines, glues and finishes. He'd talk of animal glues and epoxy, chip carving and routers, hammer veneering and plastic laminate, French polish and spray lacquer, rasps and shapers. His knowledge seemed encyclopedic, felt experiential and was unbelievably valuable to me, a rank beginner who was falling under the spell of this amazing man.

Ouch

In Professor Frid's class, crits—those peer-and-teacher reviews that art students are subjected to—were always interesting but definitely intimidating. His criticism was sharp and only partly cushioned by his humorous comments and jovial banter. It was particularly nerve-racking to know that one of us would invariably be spotlighted for especially tough criticism.

In his comments, sarcasm ruled: "Oh, good curve. Too bad it's the wrong one."

"Nice dovetails. What'd you use—a chainsaw?"

"Beautiful legs, Henry. What were you thinking about—an elephant?"

And the classic:

"Congratulations. You've just figured out the most complicated way to hold a board 30 inches off the floor."

Brutal.

The mysterious pygmy chisels

I'd taken a shine to Professor Frid's short-bladed tang chisels. They were easy to hold and control, especially when cutting dovetails. I asked him where he'd acquired them. He gave me a quizzical look and said, "At the hardware store, where else?" I couldn't find them anywhere. Then it dawned on me. Professor Frid was no Zen tool guy. He'd use the closest tool on hand to do whatever needed to be done. His chisels found many uses: paint scraping, can opening, prying, wedging—often brutal, nick-inducing work. When he needed a sharp chisel, he'd simply run to the belt sander and, using the wheel portion of the machine, hollow-grind the nicks away. Then he'd grab a Belgium waterstone and quickly hone down the significant burr. In two minutes flat he had a razor-sharp—and a somewhat *shorter*—chisel.

Play it by eye

The table legs I was working on were a complex shape, simultaneously tapering and curving, dinghy-shaped in section. I'd purposely drawn this shape so I'd have to explore different tools to make them: spokeshaves, rasps and Surforms, maybe the unwieldy compass plane. I'd made a full-scale drawing with section views at various points in the leg to help me visualize the changing shape. I then made cardboard templates of each section view. I thought I'd use the templates while shaping. As I began whaling away, shaping the wood, I would periodically pick up a template to gauge my progress.

Then Professor Frid spotted me from across the shop. He scurried over, grabbed the templates and tore them to pieces. Calmly, in very clear English, he told me, "The best tool is the eye. Train the eye. The eye guides your hands to achieve the form. If the eye says it's right, it is right."

I died when I saw those templates go, but that moment changed the way I work for good. Every day I'm in the shop I benefit from the freedom it gave me.

"Get it otta heeah"

Every piece I built in school was designed to explore a new and difficult technical problem. One desk I built was conceived to delve into curvilinear form, heavy shaping and tambours. It was quite derivative, based on a piece I'd seen in a California craft magazine and was by no means traditional, but it was fairly functional and somewhat interesting.

I worked around the clock to complete the desk while Professor Frid was away on vacation over winter session. I finished just in time and was very pleased with the re-

Still tapping the source. *Even long after graduation, a thorny technical problem—this one having to do with an extension table—could occasion a conference with the master. Here, in 1981, Frid visits the author (left) in his shop. Between them is Chris Freed, who helped build the table.*

Photos, this page: courtesy of Hank Gilpin

A teacher's report card: his students

Frid pushed his students to achieve technical mastery of their medium but never insisted on stylistic uniformity. His goal was simply to provide a solid foundation that would enable students to succeed. Frid felt compelled to pass on what he knew, and that was contagious. The photos on the next three pages show work by a half dozen of his former students. Five of the six have been influential teachers themselves, and the other has trained a string of apprentices.

HANK GILPIN, LINCOLN, R.I. (RISD, 1970-1973); WHITE OAK SIDEBOARD, 1995

Of his former teacher, Gilpin said, "He didn't educate people in order to reproduce himself or justify himself but to pull things out of them ... he was attracted to the power of potential in a student; he didn't want to crush it. He wouldn't tell a student 'Here's what you are.' Instead, he said, 'Here's what's possible'"

sults. When he walked in, all tanned and relaxed, he looked at one student's project, said hello to another student and then turned to look at my desk.

He gave it a cursory glance, turned to one of the other students and asked, "Who made this piece of crap? Get it otta heeah." He chuckled, turned to me and added, "Nice job, Henry, now go design something good."

Brrrr

We were a graduate class of three that year: Roger, Alphonse and me. When Professor Frid arrived in the morning, Roger and I would be sitting at our benches, drinking coffee and shooting the breeze. Alphonse would join us if he hadn't been working until dawn. Professor Frid would look at us, look at his watch, scan the quiet shop and ask us if we were having a good time. Then he'd say something like: "Come on, boys, it's time to work! The day is passing and what are you accomplishing? Go! Go! Go! Your work won't make itself!"

He'd crack a few jokes while prodding us to work, suggesting, with his inimitable sarcasm, that perhaps we could find other times to waste on idle chatter. And *always*, as he walked away, he'd point out the window toward the city street beyond and say, "It's cold out there, boys!"

It was his mantra, repeated over and over: "It's cold out there. ... It's cold out there."

Brrrr ... How true!

Under the eye of the clock

After my classmate Alphonse and I graduated from RISD, Mr. Frid hired us to work in his shop. And work it was: hard, fast, direct. We went right to work at seven and quit at precisely 3:30. A much-loved coffee break of 20 minutes and a quick lunch fuel-up at 12:30 were the only breaks. Each day's work was planned the previous day with specific tasks assigned to each of us.

Mr. Frid acted as manager and foreman. He delegated tasks to suit our abilities while always pushing us to higher levels of craftsmanship and responsibility. He discouraged conversation and questions not pertinent to the task at hand. Any interruption to his concentration received a strong rebuke. Loss of focus led to mistakes, and

JERE OSGOOD, WILTON, N.H. (RIT, 1957-1960); WALNUT SIDE CHAIR, 1992

Distinguished as a designer and as a teacher, Osgood taught at RIT from 1971 to 1974 and at Boston University's Program in Artisanry from 1975 to 1985. Osgood said that in the classroom, "Frid was a precipitator, a catalyst—he got the best things out of people. His presence was very strong. He had an energy and a complete devotion to the field I hadn't seen before."

Photos, this page: Jonathan Binzen (top); Dean Powell (bottom)

JOHN DUNNIGAN, WEST KINGSTON, R.I. (RISD, 1977-1980); LEATHER ARMCHAIRS, 1988

Dunnigan, who has taught at RISD for 20 years while maintaining his own shop, said, "Tage's influence was often more technical than conceptual. He gave you an honest, practical answer, and you believed it. And I learned a lot about life from him as well as about making furniture." After studying under Frid, Dunnigan served as his teaching assistant and went on to help him with the writing of the second and third books of the trilogy *Tage Frid Teaches Woodworking* (The Taunton Press).

mistakes meant loss of profit—not an acceptable consequence in Mr. Frid's mind. The jovial banter was far less evident here than it had been before in the classroom.

At the stroke of half past three, he put down his tools and sent us home. He'd worked eight hard hours to earn his keep, and the remainder of the day was his to plant and tend the garden or care for his menagerie of farm animals. He felt a person should have interests outside their work or the mind would go stale and then the work would suffer.

What's the problem?

The banker, the contractor and Mr. Frid stood in the richly paneled English oak boardroom at the turn-of-the-century bank. The bank was moving, and the banker wanted the old boardroom moved to the new tower. The contractor said it couldn't be done. Frid, consulting for both, said, "What's the problem? Of course it can be done!" The following week, under Mr. Frid's supervision, Alphonse and I Skilsawed the boardroom apart. Three months later, after a bonanza of stripping, repairing, reconfiguring and refinishing, the new tower got its old boardroom.

Whipping up a window

We were putting a small addition on his house. The job was going well, as his jobs nearly always did: clean and quick, well organized. We would finish ahead of schedule. Near the end of the workday, Mr. Frid's wife, Emma, surveyed the situation and firmly but gently made it clear that another window was necessary. Mr. Frid made it equally clear that he didn't feel the need. Emma simply pointed to the spot she had in mind for it and returned to her kitchen. Mr. Frid put down his hammer, made a few measurements and went off to his shop, muttering to himself in Danish. I finished framing a door and discreetly left for the day. I returned the next morning at seven. Five minutes later Mr. Frid sauntered down from his shop with a freshly made window, glazed and with casing. We put it in. Emma came back, glanced approvingly, smiled, thanked us and returned to her chores.

Glue and pray

The glue-up was complex and somewhat vexing—too many parts, too many angles and way too many clamps. We almost had it together. Maybe just one more clamp ... just a little more pressure ... BOOM! The entire assembly exploded. Clamps crashed to the floor, and the piece slumped and then splintered. Six weeks of work destroyed. We were distraught. Mr. Frid walked in, eyed the situation, grabbed a glue bottle, splashed glue on the myriad bits and pieces and told us to put it back together—quickly! We did. It worked. The piece, a circulation desk for the RISD library, is still in use today, 30 years later. And only we are the wiser.

An appetite for fine work

The phone rang in Mr. Frid's shop around nine one morning. We were finishing some very elegant doors for a ship restoration. Merlin Szoz was applying gold leaf, I was repairing inlay and Mr. Frid (he was Mr. Frid for quite some time to me!) was French-polishing. He took the call, conversed briefly in Danish and skedaddled out the door toward the house. Merlin and I continued to work. Mr. Frid returned (we could hear the door but not see it), and the bandsaw started up. The sound of the cutting was unusual. Ummmmmzeeepummm ... ummzeeepummm ... ummzeepumm.

BILL KEYSER, VICTOR, N.Y. (RIT, 1959-1961); WENGE AND ASH MUSIC STAND, 1986

"I respected the balance he had in his life," Keyser said, pointing out that Frid not only taught with great energy but also developed a humming furniture business, helped found a gallery for crafts and was extremely devoted to his family. "He was a role model for what is possible." Keyser taught furniture making at RIT from 1962 to 1997.

Photos, this page: Ric Murray (top); David Leveille (bottom)

ALPHONSE MATTIA, WESTPORT, MASS. (RISD, 1971-1973); LACEWOOD AND MAHOGANY BED, 1995

"Tage had a joie de vivre that came through in everything he did. For me it wasn't his aesthetic so much as his life as an artist that was so exciting and inspiring." Mattia, who taught at Boston University's Program in Artisanry for 11 years, has been teaching at RISD since 1992.

What the heck? I had to take a peek. I took a few paces to look around the corner, and there was Mr. Frid with a frozen pork loin, sawing it into chops. He gave me a quick look, winked, patted his stomach and went back to work.

One more crit

A few years ago I had an open house at my shop. I invited Mr. Frid, but I didn't think he would come. He was retired and, I thought, perhaps not that interested in what his long-ago students might be up to. But he did come, and I must admit I was very pleased. And I felt a little tingle of nerves.

He walked around the shop for about 45 minutes, checking out the pieces on display. I watched him but was unable to read his reactions. Finally, he walked over to me and said, "So, Henry, this is a good collection of work. And I see you had a very good teacher. But tell me, who is your designer?"

Always the jokester.

A teacher's gift

Mr. Frid would be the last to accept the notion of genius in his life's work, but there it was in the improbable combination of supercharged ego and passionate concern for his students. The ego fueled his fiery confidence and self assurance. The concern focused on the singular potential in each individual he taught. Instead of imposing his own very strong aesthetic on students, he demanded that they develop technical breadth and expertise, and simultaneously he coerced and cajoled students to seek a finer articulation of their personal creative passions. Jere Osgood, Bill Keyser, Alphonse Mattia, John Dunnigan, Rosanne Somerson ... each of these and scores of other former Frid students are successful furniture makers recognized for their personal vision and fine craftsmanship. Though a whisper of his ideas might linger in their designs, his real legacy is that he didn't want or need these or any of his other students to emulate his work, but rather he wanted them to stand apart, with the hope that the skills he taught them would ensure success in their pursuits. □

Hank Gilpin designs and builds furniture in Lincoln, R.I.

ROSANNE SOMERSON, WESTPORT, MASS. (RISD, 1972-1976); CHESTNUT OAK AND BLEACHED LACEWOOD CABINET, 1995

"Tage gained everyone's respect with his sense of humor," Somerson said. "He was charismatic, encouraging, slightly devilish yet fatherly." Frid hired Somerson to replace him when he retired from RISD in 1985, and she is now head of the furniture department there. Somerson was an early editor at *Fine Woodworking* and helped Frid with his first book.

Photos, this page: Dean Powell; drawing Alphonse Mattia

In My Imagination, All of My Tools Are Sharp

A tour of a tool junkie's shop and psyche

BY ANDY ROONEY

If I had known when buying them which tools I would use regularly and which tools I would almost never use, I might have saved enough money to take over Bill Gates' share of Microsoft. I would also have enough room left in my shop for tools I do use, space now taken up by the tools I do not use. It is certain that the tools I own exceed the total value of anything I have ever made with them, but the satisfaction they have given me simply by their presence is priceless.

My family has a summer place 150 miles north of New York City where most of my woodworking takes place during the three months plus seven weekends a year that we live there. My shop is 25 ft. by 25 ft., not huge but adequate if it were being used by a careful space-planner, which, as you might suspect, is not me.

When strangers come into my shop and look around, they often look at a tool and ask, "What do you *do* with that?" They don't understand that *having* the tool, like *having* good wood, is an end in itself. If I owned a Rembrandt, no one would ask, "What do you *do* with it?"

I like looking at a tool, feeling it and even using it once in a while. I dream idly of the wonderful pieces I could make with its

Photos: Ellen Rooney

help. I don't usually make them; I just dream of making them.

In desperation, I have misused tools

In my shop, surrounded by my toys, I'll often sit in the bucket seat of a comfortable stool I made and thumb through an article in *Fine Woodworking*. I am transported out of my routine life into a wonderful world where I am Tage Frid and George Nakashima rolled into one. In my imagination, my tools are all sharp, perfectly tuned and obedient servants in the capable hands of their master, me.

The facts of the matter are different, of course. My tools are all first quality, with the exception of a stand-up drill press that is an adequate Korean knockoff. But each has a personality of its own that is not always compatible with mine. My chisels are not all sharp because, in desperation, I have misused them on a job they were not designed to do. The teeth on some saws need resetting. Many small tools have been put down hastily, not where they belong but where they were used, and are as hard to find when I need them again as a library book returned to the wrong shelf in the wrong aisle.

In the middle of the shop, set kitty-corner to allow the most space for putting long boards through it, is a good 5-hp tablesaw. Attached to the back is a fold-up roller table that enables me to put long or wide and heavy stock through it so that it doesn't drop to the floor when it leaves the surface of the saw table. With the exception of the tablesaw and the 6-in. jointer, all other pieces of heavy machinery are on locking wheels so they can be rolled out of the way. Or into the way.

One tool scares me

In one corner, and least frequently used but a grand tool, is a heavy-duty resaw bandsaw. It is difficult to adjust, and it is almost impossible to shove wood through it and get a board of uniform thickness. Instructions advise the user to cock the rip fence at an angle, which makes for awkward operation of it. When the saw is revved up with its 16-ft. blade humming, it's a monster. I'm scared stiff of the tool, but I enjoy using it. A woodworker can't have a more satisfying time than slicing crude logs into beautiful boards. I've used it most successfully on short trunks of apple trees—apple being one of the world's most beautiful, least-used woods. It's best to know someone with an orchard.

There's also a small bandsaw, which I worry about because I have frequently used it and then forgotten to reduce the tension on the blade, as the advisory under DANGER! admonishes me to do. I wonder what leaving the tension on, against the warning, has done.

My 15¾-in. thickness planer is one of my most satisfactory tools. Last year I removed the original blades and installed razor-sharp carbide replacements. The first time I used it was on some 12-in.-wide by 14-ft.-long old pine boards that I had salvaged from a tumbledown barn. I had gone over the boards with a magnet to locate and remove any nails. I did an *almost* perfect job of removing the nails. Almost! I got all but one. The one nail nicked my new blades the first time I used them. For weeks I lived with a little ridge in every board I put through it, until a woodworker more knowledgeable than I suggested that I simply loosen one blade and tap it slightly

"The satisfaction my tools have given me is priceless." *Like many woodworkers, the author would like to be master of all his tools. But each tool has a personality, so his relationships with them vary greatly.*

"Over the years I've gone through half a dozen phases of furniture making." *The author has built many of the pieces used daily in his homes. He now works almost exclusively with native American hardwoods. The rocking stool (below) includes a Nakashima-style dovetail key to curb further checking.*

from one end to move it a fraction so that the nicks in the blades were no longer in line. Presto! No more ridge.

The last of my major power tools is a combination disc and belt sander. If I were a teacher, I'd give it a barely passing grade. I don't have a dust-collection system, so when I'm going to use it, I roll it over to the open door and hope most of the wood dust ends up outside. The 36-in. belt is difficult to replace, and the glue, no matter how amply applied to the metal disc, does not always hold the round piece of sandpaper to it when it spins. No one likes flying sandpaper.

One wall of my shop is taken up by a stack of shelves divided into open boxes 18 in. square. These shelves are for storing power hand tools, wood finish, turpentine and the sorts of things that accumulate in a shop, such as cords that have become separated from the machines they came with, lengths of rope, books of directions (in English, French, Spanish and Japanese), rags, sandpaper used and new and a wide variety of useless gadgets that seemed like a clever idea when I bought them.

When I yearn for easy satisfaction and feel I shouldn't eat, I buy a tool. So I have a lot of them. If you can name it, I probably have it. My bins runneth over. They hold several ¼-in. and ⅜-in. drills. There are circular saws, dagger-blade saws, oscillating sanders, vibrating sanders, heart-shaped inside-corner sanders, power screwdrivers. Everything I have, I have two of—and for two reasons. One, I like both plug-in and cordless tools; and two, when I saw the second one, I was in need of the satisfaction that comes with buying a new tool.

Those bins hold tools I haven't used in 17 years but can't bring myself to throw out because I remember how much they cost. Then there are the great tools that are in constant use when I have a project going.

Some tools are friends, and some I can't get close to

Most of my small hand tools hang on, above, near or under my workbench. These are my closest friends among tools. There are planes for which I feel an outpouring of affection when I grasp them in the palm of my hand. I have four good Japanese draw saws. I even have a screwdriver with which I have a special relationship. I harbor this notion that it has never failed any job, even an unscrewdriverly one, that I have asked it to do and, as a result, in the past few years I have not been asking it to do anything it could possibly fail at. I don't want to ruin its record.

Over the years, I have found it more difficult to get attached to some tools. While there are hammers I like and squares and levels I prefer over others, I have never used a pair of pliers that I'm completely happy with. Those two holes at the hinge designed to allow the jaws to open wider are an incomplete invention. I own as many as seven pairs of pliers, each designed to be right for a job, but mine are all a little wrong for any job.

If I were to be asked for advice on buying tools for any beginning woodworker, it would be easy to give. "If you decide to buy a tool for a specific kind of job that you do all the time and find that it is made by three different companies offering it at $129, $139 and $174, buy the one that costs

$174 if you have the money. If you don't have the money, don't buy the tool. Wait until you have $174—by which time it will probably cost $183—but wait anyway." One of the most unfair things about both life and woodworking is that the most expensive is usually best.

There also are tools with which I have what feels like a personal relationship. When I use them, I recall some previous job I did with them. I think silently to myself that when I die they ought to die with me, because no one will ever know what we had going between us. I'd hate to have them fall into the hands of a callous stranger who picked them up at a yard sale and didn't know what I know about them. When I see good, old tools lying in a box in the corner of an antique shop, I weep a dry, silent tear: There but for the grace of a few more years go mine.

My other shop is near the city

In our home in Connecticut, I am more apt to be at my typewriter in the part of the basement laughingly called my office than in the back part known as my shop, which also houses the washer, the dryer, the furnace and 18 legal-sized boxes of papers. This shop is home to my multipurpose Shopsmith.

In 1952 I was writing material for Arthur Godfrey's radio and television shows. He found out I was interested in woodworking, and several days before Christmas he had a Shopsmith delivered to our door. With the possible exception of an 8-year-old Dodge sedan an uncle gave me when I was a senior in high school, it changed my life more than any piece of machinery I ever owned. It's the perfect tool for a basement shop that has to be shared with the laundry, heating system and storage space.

My wife's father, an orthopedic surgeon with a wide range of hobbies and a very logical and practical mind, looked at my Shopsmith and, with the obvious thought of owning one himself, asked how long it took to switch from one function to another. It takes from 2 to 10 minutes to change it from being a tablesaw to being a lathe, a drill press, a disc sander or any of the multiple functions of which it is capable. Instantly I knew the Shopsmith was not for my father-in-law. If the process of the changeover is not a satisfying one in itself, independent of what the machine does for you once it is converted, it would very likely not be a favorite of its owner.

If only I had two lives to live

Over the years one of my chores has been closing up my shop in the country and deciding which tools to bring home to my small, basement workshop. Every year I've brought fewer and fewer, partly because I duplicated more of them and partly because I was doing more writing and less woodworking in the winter.

The tools I transferred were mostly small, cherished hand tools that were too expensive to duplicate. I bring a small box of good chisels wrapped in cloth, several small Japanese saws, two of my favorite handplanes and, of course, that great screwdriver. I bring the handplanes because I love the lore of planes, even though I am an inept user of the simplest of them. When I read of truing a twisted plank with a plane, I am in awe of anyone who can do it. Several of my handplanes are collector's-item quality and, while I can collect them, I'm not good at using them. I often reach for my power planer, a tool with which it is easily possible to do major damage quickly.

"The decision about what to make usually comes from looking over my stacks of wood." *The author's summer workshop is 25 ft. by 25 ft. The shop holds his broad collection of wood and tools.*

While most of my knowledge of woodworking has been acquired by trial and error, with an emphasis on error, I take advice. Last summer our son Brian and I were making an outdoor octagonal table of teak with a pedestal base. We figured out what we needed and set out to cut eight boards 34 in. long, each with both ends mitered at an angle of 22.5° so that they'd fit together to make a perfect octagon.

We had cut five pieces when my friend, the nicked planer-blade expert, showed up for a casual visit. He looked at our project and gave us advice that saved wood, time and anguish.

"Don't cut them all at 22.5," he said. "Cut seven of them, then put those together and cut the last piece to fit." It was great advice because the angle at which we had to cut the eighth piece to fit was not exactly 22.5°.

Over the years I've gone through half a dozen phases of furniture making. The decision about what to make usually comes from looking over my stacks of wood. I am reluctant to cut almost any good wood because of my well-founded fear of bungling it. But if I see a pile of tiger or bird's-eye maple that would make a chest of drawers, I'll pull them out and study them. I determine what cuts I could make that would be least wasteful.

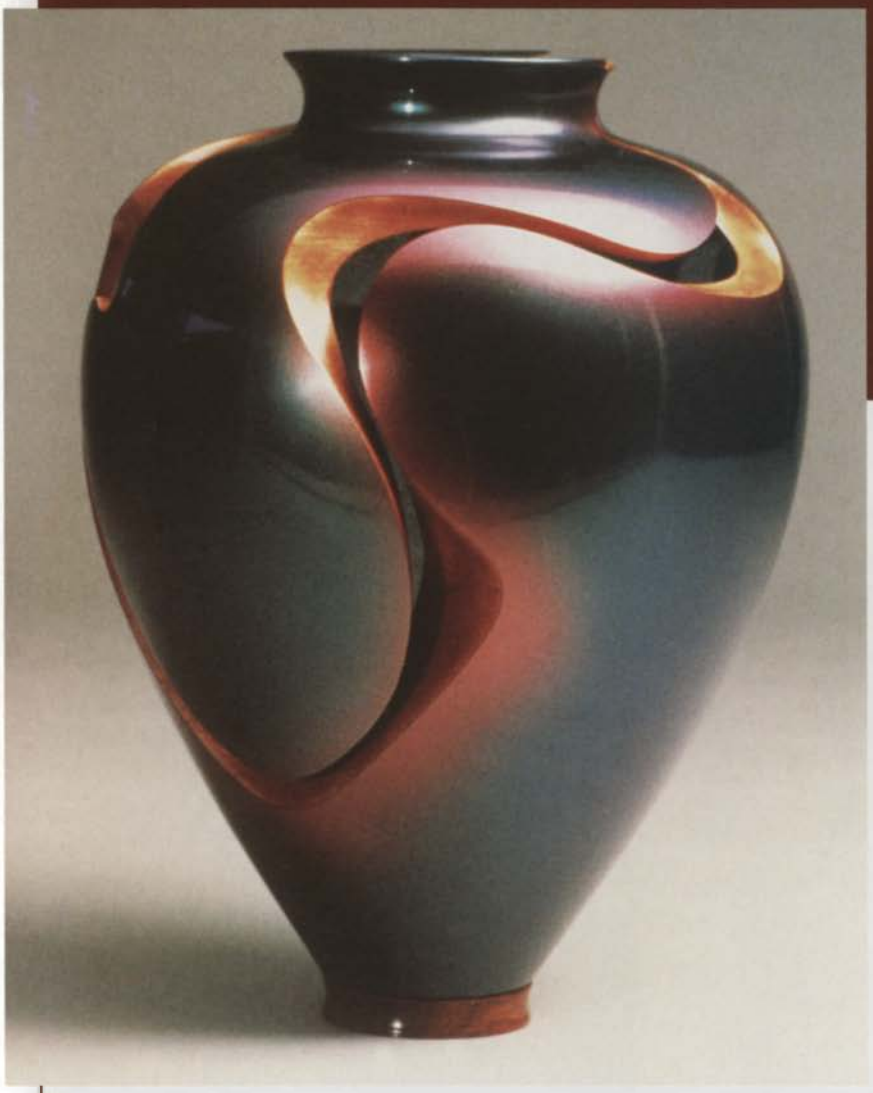
For years I used different kinds of mahogany and a few exotic species like rosewood, but in recent years I've worked almost exclusively with native American woods such as cherry, maple, walnut and oak. I have come to the point where I ignore flaws, like knots or checks. They are part of the character of a board, and I incorporate them in my furniture. I use a nice supply of genuine ebony for the Nakashima dovetails to curb further checking in boards that are split at their ends.

I am a writer who loves to write, but if I had two lives to live, I'd be a woodworker in the other. □

Andy Rooney works for CBS television in New York City.

The Resurgence of Wood Turning

From a nadir in 1975, lathe-made work is a thriving phenomenon



BY RICHARD RAFFAN

GILES GILSON, "BLACK RIBBON VASE," 1986; BIRCH

Gilson took a bold approach with color. This vase was sprayed with automotive lacquer.

The art of turning wood on a lathe is an ancient activity, possibly predating the potter's wheel. In England the Worshipful Company of Turners is one of the most venerable trade guilds, which suggests the long-standing importance of the craft. The common family name of Turner indicates its ubiquity. Turned objects are so common that we forget how they are made or that for centuries turners have churned out masses of components for use by other trades and industries. Those objects include spindles for furniture, hubs and spindles for wheels, doorknobs and tool handles.

The magnificent Pinto Collection in the Birmingham City Museum in England gives a good idea of how many everyday things used to be made on the lathe: bowls, cups and

plates. But by the early 20th-century such domestic items had mostly been usurped by upstart potters and cutlers. Then a few decades later, automatic lathes forced the demise of commercial hand turners, and although lathes continued to be used by pattern makers and remained in schools as part of the industrial-arts curriculum, the art of efficiently using the cutting tools was all but lost.

In the early 1970s, when I became interested in the craft, locating a competent wood-turning instructor was nearly impossible. The turners I managed to contact at that time were diversifying into broader woodworking activities or were out of business by 1975.

But from this nadir, wood turning has become a booming phenomenon across the English-speaking world. And the continental Europeans are catching up fast. Wood turning and its associations abound, and while most turners are content to make traditional items, a significant number are taking turned objects into the world of fine arts and art galleries and museums. An international wood-turning symposium circuit has developed with its own globe-trotting superstars appearing regularly not only in North America but also across Europe, Australia and New Zealand. A lot has happened to this simple craft in the past 25 years.

STEPHEN HOGBIN, "CHAIR," 1974; WESTERN RED CEDAR

Hogbin's monumental chair was made from a 7-ft.-dia. log.

Conventional bounds under assault

The handcrafts revival of the early 1970s helped popularize wood turning. People were attracted by the relatively low cost of getting started in the craft (as I was) and by the ease and speed with which a finished and satisfying object could be produced on a lathe and then sold. In the early 1970s a few turnings, mostly functional bowls, were featured in prestigious exhibitions that followed the seminal crafts exhibition Objects USA. This exhibition toured North America from 1969 and crossed the Atlantic to the Edinburgh Festival in 1973. There were few signs then that wood turning need not be constrained by tradition or the standard equipment available. In 1975 turned wood still had a pretty low profile within a crafts movement then dominated by ceramics.

Browsing through catalogs and books from the mid- to late 1970s, you'll find little to suggest the direction wood turning might go, apart from Stephen Hogbin's monumental chairs (see the photo above) shown in 1974 at the Aggregation Gallery in Toronto. Most images from those years are of exquisite, thin bowls, exemplified by the work of Bob Stocksdale (see the photo at left), bowls turned from dramatically grained woods, traditional chunky bowls, or a few containers, most of which apparently displayed little concern for the finer points of form or design. Flashy wood or practicality ensured sales and attention, and there were few pretensions to art with a capital *A*.

BOB STOCKSDALE, EBONY BOWL, 1981

Stocksdale, using a wide range of exotic woods to advantage, established a gallery market for delicate bowls.

MARK LINDQUIST, SPALTED MAPLE BOWL WITH CARVED FOOT, 1977

Lindquist was at the forefront of working sculpture into turned objects.

Hogbin, a Canadian, was the first to push the conventional bounds of wood turning to extremes. He split his turned forms and reassembled them, often adding carving and paint to create totally different artifacts. In his "Walking Bowls," the two halves of a bowl form with wings are realigned and joined by bringing the two sections of the original rim together (see the top right photo on p. 92). While few copied Hogbin's cut-and-reassemble approach as slavishly as they did David Ellsworth's hollow forms or Mark Lindquist's textured bowls, Hogbin's ideas encouraged a generation of turners to adopt a broader and freer approach to the lathe, weaning many away from the straight and narrow of conventional bowls.

Meanwhile, in England Peter Child had published *The Craftsman Woodturner* (out of print) in 1971 and was teaching basic

Photos, except where noted: Courtesy of Wood Turning Center; this page (top right): Christl Images ccq.

wood turning to hobbyists and generally rekindling interest in the craft. But interest in turning really gained momentum in 1975 when Dale Nish, in Utah, published his influential book *Creative Woodturning* (out of print). This book was so widely and well reviewed that all those people who knew vaguely what a lathe was suddenly had access to some technical information and a range of projects on which to get started. Dusty lathes were dragged out of workshop corners and put to use.

Experiments with unusual materials

The turning movement was given another push when Nish published *Artistic Woodturning* (Brigham Young University Press, 1981), which featured the work of Giles Gilson (see the photo on p. 90), Ellsworth and others destined to become wood-turning icons. Nish's later book *Master Woodturners* (Craft Supplies USA, 1986) entrenched these names as leaders of the pack. The book also introduced others, such as Rude Osolnik (see the photo below), who had an established following around Berea, Ky., to a wider public. Ellsworth created the concept of the hollow vessel turned in wood (see the photo at right). These ultrathin and lightweight ceramic-like forms with very narrow openings still have a definite how-the-heck-did-he-do-*that* quality.

RUDE OSOLNIK, CANDLESTICKS, 1987; WALNUT

Osolnik, one of the most recognized names in wood turning, has been turning and teaching since the 1930s.

Ellsworth's initial forays into this genre were turned from solid timber and were interesting rather than good. Then he began to use wood full of defects and created vessels where whole sections were missing, thus revealing the exact wall thickness of each piece. These were far more spectacular as a technical feat than any defect-free vessel and were an instant hit with collectors. They also showed other turners how material previously thought fit only for the dump could be turned into a collectible object. Although universally plagiarized, the turned hollow vessel has become a distinctly American art form with seemingly infinite variations. These vessels are found in galleries across the United States but, interestingly, not in such numbers in other countries, where buyers seem to prefer their hollow vessels made of glass or clay.

STEPHEN HOGBIN, "WALKING BOWL," 1982; ZEBRAWOOD

In the late 1970s and early 1980s, Hogbin demonstrated that a turning could be a vehicle for the imagination or a surface for embellishment.

DAVID ELLSWORTH, "UNITED PEAKS," 1988; MAPLE BURL

Ultrathin and lightweight, Ellsworth's hollow vessels have been widely imitated.

Photos, this page: Stephen Hogbin (top right); David Ellsworth (bottom right)

MICHAEL HOSALUK, "TRAVELLING BOWL," 1993; WOOD, PAINT, FOUND OBJECTS

The piece is Hosaluk's interpretation of an animated bowl that travels on stilts.

In 1976 Albert LeCoff organized the first of a series of Philadelphia wood-turning symposiums that brought together turners, academics and anyone else interested in the craft. LeCoff wanted to get away from the universal production-and-technique, trade-based approach to the lathe in favor of the design, innovation and creative approach that had been applied in other craft disciplines. With this series of symposiums, LeCoff stimulated turners to move away from the traditional bounds of their craft, but the real effects weren't to be noticed until the mid-1980s.

Technical innovations fuel the fire

Wood turning took a great leap forward in 1977 when Nick Davidson founded Craft Supplies, a British mail-order company offering high-speed-steel tools and a range of innovative chucks designed for turners. These tools and chucks revolutionized the technical aspects of the craft of turning wood.

Aggressive advertising in the woodworking press attracted even more interest, and the wood-turning revival was well under way. Davidson's success spawned similar companies across the world, most notably Craft Supplies USA in Utah, which introduced quality wood-turning tools and equipment to North America. The craft become a popular hobby, mostly for retirees, although a number of younger people realized the income potential as they sought a change of lifestyle. Many of the best-known professional turners working today had previous lives in industry, academia or commerce.

The new chucks and tools enabled the growing number of studio turners to earn a decent living with greater ease, and it was a time of fine and delicate functional objects being sold through the plethora of newly established galleries and upmarket kitchen shops specializing in handmade tableware. The work was well designed, conservative, traditionally based and what the market demanded.

Symposiums raise the bar on aesthetics

In England, conservative attitudes as to *how* wood should be turned led to the first International Woodturning Seminar at Parnham House in Dorset in 1980, organized by John Makepeace. Like LeCoff, Makepeace realized that most wood turners, although technically adept, needed exposure to some design concepts and lateral, if not radical, thinking. The range of topics covered was minimal compared to a modern turning symposium, but it was groundbreaking at the time. Hogbin explained how he made his monumental split turnings and discussed his approach to design. Ellsworth, meanwhile, worked wood not fit for a fireplace whilst riding the lathe like some cowboy. Both men stirred the most traditional-minded turners into questioning their approach. Some interesting work resulted, but only in small quantities because it failed to sell.

An event of equal importance was LeCoff's 1981 symposium in Philadelphia, where two English turners astonished the locals with their mastery of the tools, particularly the bowl gouges. They in turn (so to speak) were amazed at what Americans managed to create with miniscule machine bits brazed onto assorted iron bars and some very aggressive power sanding. The amalgamation of transatlantic techniques made for a bunch of more fluent and

DEL STUBBS, TRANSLUCENT BOWL, 1980; OLIVE

Stubbs helped pioneer thin, translucent turnings.

Photo, this page (top): Matt Bradley

STONEY LAMAR, "NO LOOKING BACK," 1998

Lamar creates sculptural work almost entirely on the lathe by manipulating the stock around the lathe axis.

efficient makers, and consequently, the quality of work everywhere began to improve.

LeCoff went on to found the Woodturning Center in Philadelphia, which promoted the hugely influential "Challenge" series of International Turned Objects Shows that toured North America, taking wood turning out into the world and exposing it to an entirely new audience. Through these and other shows he curated, LeCoff has played a major role in the promotion of avant-garde turning, bringing emerging talent to the fore and stimulating discussion about works that went well beyond bowls and pretty wood. These shows provide a fine platform for much of the experimental work being done. Following the trend, turnings were increasingly split, reassembled, hacked, hewed, colored and roughed up as people sought to create sculptural objects. Many turnings became vehicles for political and satirical comments, such as Michael Hosaluk's "Travelling Bowl," 1993 (see the top photo on p. 93).

By the mid-80s, the craft was flourishing

Throughout the 1980s wood turners at all levels proliferated, as did manufacturers of wood-turning tools and widgets, symposiums, workshops and books and magazines disseminating information.

ALAN STIRT, TRANSFORMING WAVE PATTERN BOWL, 1999; MAPLE WITH BLACK PAINT

Stirt employed a pottery technique, "sgrafitto," where the piece is painted, then selectively carved.

Interest in wood turning was like a snowball rolling toward the steeper section of a mountain. As tool manufacturers responded to the demands of a growing band of professional artist/studio turners and competition for a slice of the vast hobby market increased, everything to do with the craft increased: There were more turners, better tools, specialist tools—more of everything, in fact, except the raw material, which is a diminishing, even vanishing, resource. Like most woodworkers, turners today do not see lumber or logs of the same quality that were available only 20 years ago. Wood with exceptional grain is becoming increasingly scarce and expensive.

The mid-1980s also saw the birth of the American Association of Woodturners, which is now a flourishing organization of about 8,000 members, with chapters across the country. Their annual symposium attracts close to 1,000 wood turners, professionals and amateurs alike, and wood collectors.

I think the most influential, best organized and most enjoyable wood-turning symposiums are those held annually (since 1980) in Utah at Brigham Young University. Each year a few hundred turners meet to exchange ideas, catch up on gossip and watch the world's best strut their stuff. Nish, who started the symposiums and ran them for 19 years, is responsible for giving many turners

Photo, this page (bottom): Alan Stirt

the early exposure that put them on the road to wood-turning fame.

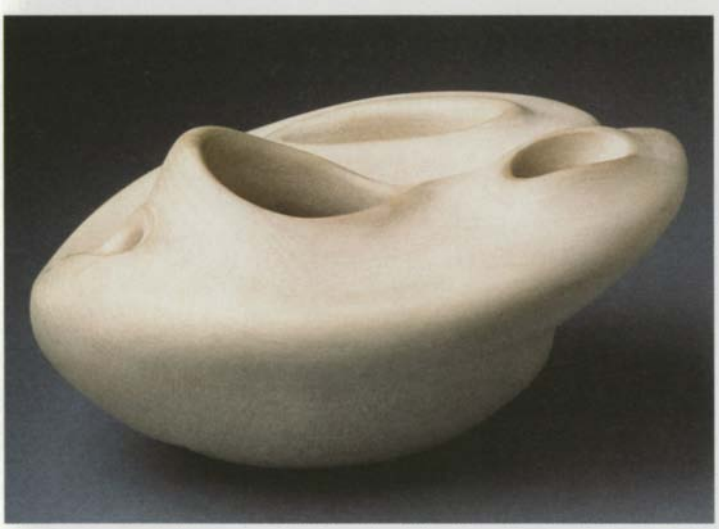
Collectors drive up prices

An interesting development of the late 1980s and 1990s has been the impact of high-end collectors (they even have their own Wood Collectors Association and annual symposium), who between them have invested millions of dollars in turned objects. This distinctly American phenomenon has seen some individuals amass hundreds, and in some cases thousands, of lathe-based objects, many of which are destined to join public collections. A few sponsor emerging talent, and such patronage has helped several major figures.

The emergence of the collector's market has been somewhat a chicken-and-egg situation, driven in part by the tax breaks for collectors of art. Many collections started with the very traditional bowls exhibited in the late 1970s, when the material was often as appealing as the object.

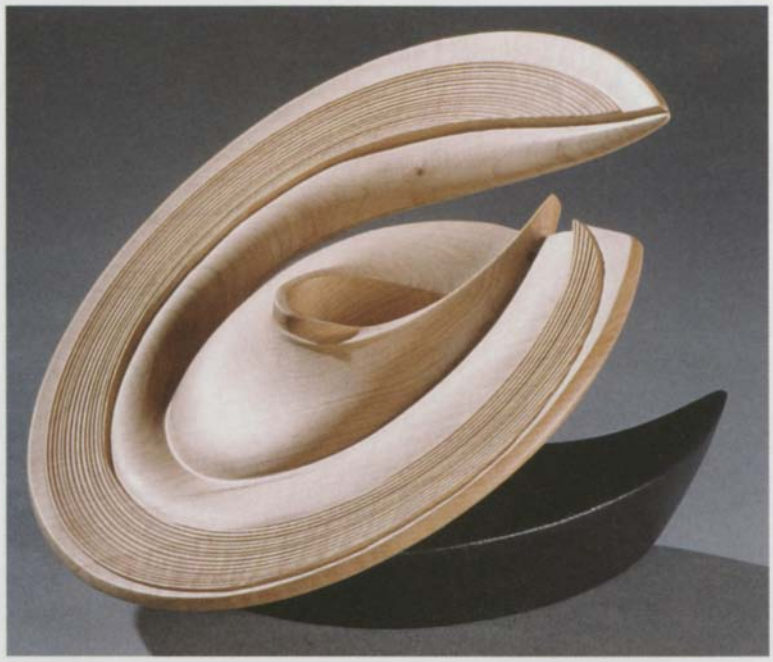
But when work pushing the boundaries of tradition or technique, like Ellsworth's hollow forms, or the boldly worked surfaces of Mark Lindquist's bowls (see the bottom right photo on p. 91) appeared in art galleries and sold, turners and collectors alike took note. Soon all manner of wild ideas floating around the minds of frustrated sculptors, who happened to be turning, began to manifest.

Functionality is generally anathema to collectors, so the hollow vessel has been a favorite vehicle of expression for those aiming at that particular market. Following the lead of Ellsworth, there have been a bewildering number of variations on this fairly conventional theme already well explored by potters and glassblowers over several thousand years.



MICHAEL PETERSON, "LANDSCAPE SERIES," 1995; HOLLY

As the name of this piece implies, Peterson imbues his work with organic, sculptural touches.



BETTY SCARPINO, "GLORY JUNE," 1996; MAPLE

Once a production turner, Scarpino has moved into sculptural work that only begins to take shape on the lathe.

Technical achievement is also prized by many collectors. During the 1980s it seemed that anything different and technically wondrous would be snapped up, regardless of its innate beauty or workmanship or lack thereof. Many of the people who plunged into turning as a livelihood or means of expression had very little skill or technical know-how. And while many of these folks produced interesting work and ideas, the execution frequently left a lot to be desired.

It has been interesting to watch the work of turners functioning at all levels—artistic, utilitarian, tourist—become more refined and fluent as they piled up years at the lathe, gradually acquiring full competence. The difference in quality between objects emanating from the lathe in the early 1980s and today is staggering. Increasingly objects can stand alone without marketing hype to justify their existence.

Today much of the more interesting work featured under the general heading of wood turning only begins at the lathe. That's especially true of the heavily carved turnings of Michael Peterson (see the photo at left) and Betty Scarpino (see the photo above).

Stoney Lamar, however, creates truly sculptural work almost entirely on the lathe by manipulating the work around the lathe axis (see the right photo on the facing page). Such wonderful work clearly demonstrates that Lamar is a man well in control of his medium and not lacking for ideas.

The ability to rapidly transform rough blocks of wood into all of those traditional rounded turned bowls, platters, boxes, standard lamps, spindles and such will continue to appeal to a broad spectrum of people who like to make things and work with their hands. Most of those who take up the craft in retirement will probably stick with tradition, but fortunately there will always be the adventurous few who enjoy pushing the bounds of anything, and who knows how they might surprise us. There's so much you can do on a lathe. Having surged back into the limelight, wood turning is not about to vanish. □

Richard Raffan lives in Canberra, ACT, Australia.

Photos, this page: John McNabb (top); Roger Schreiber (bottom)

A Woodworker's Journey of Discovery

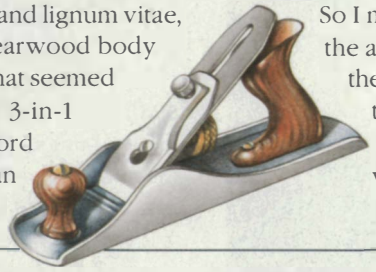
Learning to love hand tools *and* power tools

BY JOHN LIVELY

Twenty-five years ago, the closest thing to a handplane I owned was a Sears 3-in. by 21-in. belt sander. With a new 80-grit belt in the thing, I could flush up the end-grain edges of glued-up panels and tabletops. A 100-grit belt was just great for leveling badly made joints and for flattening undulating boards. A final sanding with a 120-grit belt left any surface ready for hand-sanding and then finishing. Who needed handplanes? They were, after all, artifacts from the 19th century and periods of prior darkness that never knew the thrill of grinding wood away in a flurry of dust. God had made belt sanders for a reason, and he saw that they were good.

Then one day I was eating lunch in the local burger joint and spied a man looking through a Garrett-Wade catalog. Its glossy pages were full of artfully styled, color photos of handplanes I never knew existed. Smooth planes, jack planes, fore planes and jointer planes. Rabbet planes, router planes, block planes and scrub planes. Planes with corrugated soles, planes with lignum vitae soles, smooth planes with adjustable throats, chisel planes with no throats at all. I was in love, and the only cure for this passion was possession of the loved objects.

A month later I sat at the kitchen table and unpacked a large box marked FRAGILE. Even my 6-year-old daughter marveled at the contents: A Primus jack plane in white beech and lignum vitae, a Primus "reform-type" smooth plane with a pearwood body and an adjustable throat, a Primus jointer plane that seemed almost the size of an aircraft carrier, a Record 3-in-1 plane, a Record No. 71 router plane, and a Record block plane. The entire order consumed more than half of my monthly graduate-assistant stipend, and my wife was properly horrified.



In the process of making my first real workbench, I discovered that putting these planes to work wasn't so easy. The wooden jack plane, for example, despite the fact that its iron was freshly honed, would dig into the wood, tear a deep rent, then skip out only to dig in again. Shavings lodged between the chipbreaker and the top side of the blade, and the throat of the plane would clog up. I spent more time taking apart the plane, cleaning out the shavings and putting it back together than actually planing wood. I had not felt that stupid since my big sister taught me to drive a stick shift, and I was sure I was the victim of some cruel Luddite hoax.

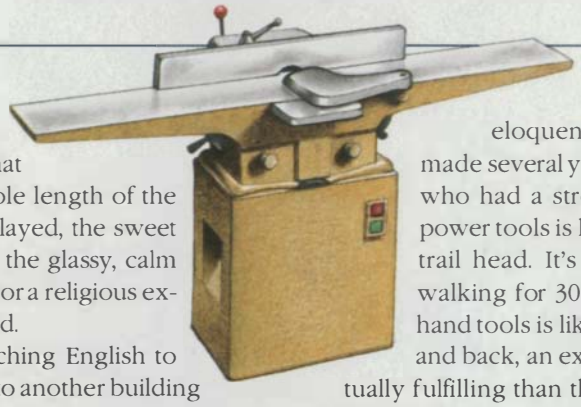
Fine Woodworking to the rescue

About this time, my first issue of *Fine Woodworking* arrived, complete with an entire article on how to tune up and adjust handplanes. There even was a little drawing showing a bunch of shavings jammed between the plane iron and the chipbreaker. The way to prevent this, the text explained, was to grind and hone the leading edge of the chipbreaker at an angle that made for a seamless fit with the back of the iron. Then as the plane sliced through the wood, the shaving wouldn't have a crack to wedge into.

So I made the modifications and adjustments called for in the article, reassembled my plane, regulated the iron, set the depth of cut and took a pass down a piece of maple that was destined to become a stretcher in my new bench. I figure there are only a few times in life when the angels sing to you out loud, and this was

The high-pitched note the plane played, the sweet resonance it produced in my bones and the glassy, calm surface it left in its wake—all these made for a religious experience beyond anything I had imagined.

The act of face-jointing a cherry board on a well-tuned jointer can be as rewarding as slicing through feathery walnut with a well-honed and adjusted smooth plane.



one of those times. The wooden jack plane peeled off a translucent shaving that curled out and didn't break for the whole length of the pass. The high-pitched note the plane played, the sweet resonance it produced in my bones and the glassy, calm surface it left in its wake—all these made for a religious experience beyond anything I had imagined.

Several years later, I moved from teaching English to making furniture. My shop had grown into another building and included a tablesaw, an 8-in. jointer and a 12-in. radial-arm saw. But I couldn't afford a thickness planer, which was just as well, because every board then had to be thicknessed by hand. I had begun to think in the summer of 1977 that machines were the devil's work, and while you did have to pay him his due, you did not have to sell him your soul.

A year later, I had spent so much time using handplanes and scrapers that my fingers started to look like Vienna sausages, my forearms had ballooned out like Popeye's, and I began to walk around hunched over. Sometimes at the end of a long day at the bench, I'd trudge into the house, run the kitchen sink full of hot water, sit on a bar stool and soak my hands for 30 minutes. I wondered how long I could keep up this madness. Handplaning was no longer full of high romance and lyrical harmony. I had become, in the absence of a thickness planer, a machine myself. I either had to break down and buy a $2,000 planer that my infant woodworking business couldn't afford or I had to join the real world and get a job. The angels were busy elsewhere.

A real job and a thickness planer

As it turned out, I did get a real job, and a thickness planer to boot. In 1980 I was hired as an assistant editor at *Fine Woodworking*, and so I was able to resume doing woodworking as a hobby. I also got to enjoy the use of a brand-new shop that the editors set up as a test lab and photo studio. It didn't take me long to appreciate what high-quality woodworking machines could do, especially the thickness planer, and this meant handplaning became fun again.

As an editor at *Fine Woodworking* I also got to hear a lot of other woodworkers wax philosophical about woodworking. At one extreme, the hard-core hand-tool users saw the power-tool people as insensitive, macho Philistines. At the other, the power-tool users viewed the hand-tool users as hippie idealists more interested in the Zen of woodworking than in actually getting anything built. The only thing the two extremes had in common was the undying conviction that they both were right.

Most woodworkers fall somewhere between these two radical positions. They take advantage of power tools for their speed, capacity and ability to replicate results. And they pleasurably employ hand tools for everything that's not worth a power-tool setup and for the refinements power tools can't achieve. The most eloquent argument for this point of view was made several years ago by a teacher of furniture making who had a strong preference for bench work: Using power tools is like driving a Jeep from your cabin to the trail head. It's not a lot of fun but a lot better than walking for 30 miles down a rutted rural route. Using hand tools is like taking a long hike across the mountain and back, an experience infinitely richer and more spiritually fulfilling than the Jeep ride. For a number of years this attitude made sense to me. Plainly it favored hand tools, but it gave generous permission to use power tools when appropriate. How enlightened.

Change of heart

Now I'm not so sure about the hand-tool bias of this enlightenment. In the last 10 years, I've begun to discover that machine-tool woodworking can be immensely satisfying all by itself. The act of face-jointing a cherry board on a well-tuned jointer can be as rewarding as slicing through feathery walnut with a well-honed and adjusted smooth plane. And this kind of satisfaction can come from almost every machine-tool operation I carry out. But before this could happen, I had to make a commitment to buying reasonable quality in power tools and then to tweak their performance well beyond just what's acceptable. I mean doing things like taking the time (and a dial indicator) to set jointer knives within a tolerance of 0.001 in. Or adjusting all vibration out of a bandsaw. Or honing the mill marks out of machined cast-iron surfaces.

Unlocking the full potential of power tools requires as much understanding, skill and sensitivity as using hand tools. An experienced touch and a sharply attuned intuition play a vital role when a high-speed cutter engages an inscrutable, organic material like wood. I once watched a man lose two of his fingers when a panel-raising cutter encountered a punky knot in piece of poplar. The thing literally exploded. There's a lot more at risk here than imprecision, tearout and end-snipe. And it's a little ironic to find out that the machine-tool setups and material-handling techniques that are the safest also produce the best results.

It's very hard for most of us not to lust after manganese-bronze handplanes, brass-backed dovetail saws and rosewood mortising gauges. But once you get won over to machines, you discover a unique and abiding thrill to safely managing the perilous embrace of wood and fast-moving carbide and steel. Loving power tools for themselves and what they can do when carefully coaxed (and not just tolerating them for "appropriate" applications) has made my basement woodshop a much, much better place to spend a fair summer morning when most sane people are hiking or golfing or tending their gardens. □

John Lively is CEO of The Taunton Press.

Drawings: Michael Gellatly

A Krenov Student's

Photos, except where noted: Seth Janofsky; this page (top): David Welter

Notebook

Studying under James Krenov for a year could change your life for good

BY ROSS DAY

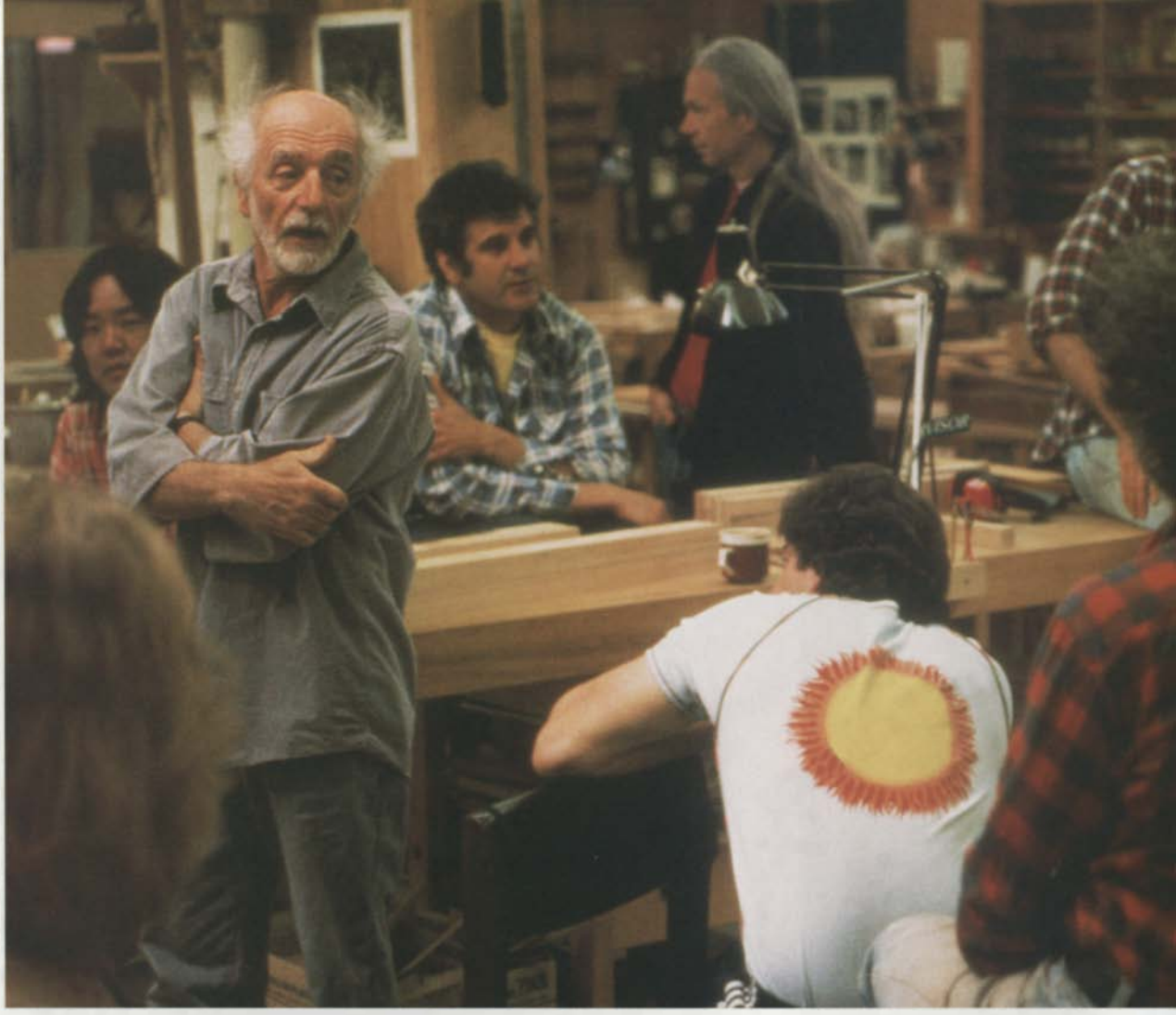
When I first heard the name Krenov, I was a cabinetmaking student at a community college in Seattle. It was 1978, and I had been knocking around in paycheck jobs without much sense of direction. I was interested in sculpture, but I didn't think I could earn a living at it. I tried carpentry, and that wasn't right. I enrolled in a course to study cabinetmaking, but I still didn't think I had found the right thing. Then, one day in class, I happened to overhear a conversation between two other students. They were talking about this guy who didn't use sandpaper, who made his own handplanes and who had written a book called *A Cabinetmaker's Notebook*. This piqued my curiosity, and I went out and got the book. What I found in it was completely unexpected. I thought I would be reading about how to build things. Instead, I found absolutely nothing about joinery or any other technical matters—this was simply a man writing from his basement workshop in Stockholm about his love affair with good wood and finely tuned tools. My first reaction was puzzlement. I didn't know what to make of it. But as I got farther into the book, a curtain lifted: I saw how cabinetmaking, this wonderfully practical craft, could also be an art.

I find my future

In *A Cabinetmaker's Notebook*, James Krenov wrote not about the how but the why of what he did. He described a way of working that made furniture making more than a series of simple mechanical processes. His focus was on excellence, on being true to yourself and on a quality of life that could be achieved through the work methods you employed and the objects you produced. He rebelled against the market-driven, industrial approach to building furniture, deriding it

Maker, teacher, treasure. *James Krenov's strength as a teacher is rooted in his passion for the craft and in the excellence he demands of himself and others. The cabinet above, in spalted maple and red oak, demonstrates his command of cabinetmaking. On the opposite page he is shown unloading planks in 1983 and teaching in Japan in 1988.*

Photo, this page: Jonathan Binzen



Powerful presence in the classroom. *Krenov is no figurehead. Even on days when he is not teaching, he is nearly always at the school, working on his own pieces, offering advice to those who ask and informally visiting with students to check on their progress.*

for draining the creative force and the soul from both the maker and the piece. He proposed instead a purely personal way of working. For me, this was heady stuff.

At about this same time, I saw my first issue of *Fine Woodworking* (issue #16), which featured the work of the English craftsman Edward Barnsley. Between Krenov's book and Barnsley's elegant, Arts and Crafts-derived work, I was completely floored. A month earlier I had no idea these sorts of things existed. All of a sudden I had found my path, and it was time to take my first steps along it.

Self-taught and struggling

To get a feeling for what I wanted to do, I decided to make copies of pieces by successful woodworkers. I made some Wharton Esherick stools, a Nakashima coffee table and a Maloof chest of drawers. They all went fairly well, but then I tried making a James Krenov cabinet, and it was plainly beyond my reach. With my rudimentary hand-tool skills, I couldn't approach the kind of subtle detailing that gave Krenov's work its spirit.

My course at the community college taught machine skills very well, but it virtually ignored hand tools. I got through the Krenov cabinet—on pure determination—and came away knowing one thing for certain: To do refined work, I would have to learn hand-tool skills to blend with my machine skills.

I limped along like this for several years, trying to teach myself by reading books and magazines and looking over others' shoulders. My work was crude, and I wasn't very happy with it. Eventually, I realized I had to get proper training.

Luckily, I had heard that a group of people had convinced Krenov to come from Sweden to start a furniture-making program in northern California. In 1986, I visited the school, applied and was accepted.

What I found in Fort Bragg

The College of the Redwoods is in Fort Bragg, an old logging town a couple hundred miles north of San Francisco. The town sits right on the Pacific, midway along the rugged and isolated—and extremely beautiful—Mendocino coast. The woodworking program is part of the community college but is not on the main campus. It sits by itself at the edge of town. The one-story building was designed as a woodshop, with skylights and windows providing natural light in abundance. Rows of European-style workbenches fill the benchroom, and there is a separate machine room. Altogether, a great environment for creativity.

The shop is its own little enclave, almost monasterylike, where 23 students can escape for nine months and concentrate solely on excellence in craft. When you walk in, the atmosphere is informal and yet intense, with people focused on their projects.

Lectures and demonstrations are generally in the morning,

Photo, this page: David Welter

STUDENT WORK

Inspiration is the sincerest form of flattery. *The College of the Redwoods (CR) has been derided for producing too much work that looks like Krenov's. But many of his students and former students are making furniture that, while sharing the refinement and superior craftsmanship of Krenov's work, takes his teachings in new directions.*

ADRIAN FERRAZZUTTI, PARIS, ONT., CANADA (CR, 1996-1998); ARMCHAIR IN HICKORY AND COWHIDE

Ferrazzutti, who arrived at CR with no experience in furniture design, produced some outstanding pieces. With a background in sculpture, painting and film-making, he felt he "had to tone things down to suit the style of the school. It forced me to keep my designs simple and enabled me to really explore the medium."

SETH JANOFSKY, FORT BRAGG, CALIF. (CR, 1993-1994, 1996-1997); DISPLAY CABINET IN CHERRY, PINE WITH PITCH POCKETS AND RED OAK

"I agree with the notion that Jim enunciated in his books—good work does not have to be flamboyant." After a first career as a photographer and expiorations in other fine arts and woodworking, Janofsky arrived at CR ready to commit himself to furniture. "It was a great environment in which to be focused in the work, undistracted by commercial considerations," he said.

with the rest of the day devoted to shop time. Krenov teaches two days a week, with three other instructors rounding out the program. The instructors, all former students, are critical to the program's success. Head instructor Michael Burns helped found the program and recruit Krenov to lead it. He is joined by Jim Budlong, a tremendous craftsman, and David Welter, who, as technician and linchpin in the shop, keeps the place running smoothly.

People have many different motivations for spending a year with James Krenov. Many are lured by his books, some by his furniture, others by seeing the work of former students. Some are there to learn the craft for their own enjoyment; some want to make professional careers from the experience. Whatever their reasons for attending, distance doesn't seem to be an impediment. Students come from all over the United States and also from abroad. Japan, Norway, Sweden, England, India and Israel are some of the countries that have been represented. Krenov and the program are truly an international draw.

In class with Krenov

Krenov starts off his teaching days with a talk. The topics range from technical subjects such as reading grain, building mock-ups and making handplanes to more ethereal ones such as making a piece more personal or taking trips and reading books to influence your work. But whatever the

JIM BUDLONG, FORT BRAGG, CALIF. (CR, 1983-1985); DINING TABLE IN CLARO WALNUT

Furniture of the English Arts and Crafts movement is a touchstone for Krenov and others at the school. The design for Budlong's exquisitely made dining table was inspired by the work of Edward Barnsley, the preeminent second-generation English Arts and Crafts designer. Budlong, one of the instructors at CR, also builds custom furniture.

ROSS DAY, POULSBO, WASH. (CR, 1986-1987); DINING TABLE AND CHAIRS IN OREGON WALNUT AND EUROPEAN PEAR

Day often remembers Krenov's admonition that it is important to have a consistency, a thread, running through your pieces. In making this table and chairs, Day matched the wood, the detailing and the visual weight of the pieces. He also inlaid pear stringing on the tabletop and the chair backs.

KEVIN GREENLEES, FORT BRAGG, CALIF. (CR, 1997-1999); CABINET-ON-STAND IN TEAK, SPALTED MAPLE, GLASS AND WENGE

Greenlees served an apprenticeship in joinery and carpentry in his native England, then worked for many years as a framer and finish carpenter before deciding to attend CR. It was difficult, he said, "to make the crossover from residential carpentry to furniture. But the teachers there are an amazing team. They seem to just draw it out of you."

topic, his underlying themes are consistent: *We are striving to do work with passion and care, work very personal in nature.* After the lecture, students work on their pieces the rest of the day. Krenov is very hands-on, touching base with everyone, talking, offering suggestions, giving criticism.

Occasionally he will offer something more than advice. I was having trouble at one point finding a suitable wood to make some door pulls for a maple cabinet I was building. He went off and dug around in some old boxes by his bench and came back with a couple of small pieces of very unusual wood. "A guy from Australia sent me this wood one time," he said. "He called it Australian pepperwood. Why don't you see if it might work?"

The wood was very dense, colored a rich brown, with blond mottled streaks running through it. When I cut it open, it smelled just like freshly ground pepper. It was beautiful, and perfect for the purpose. Krenov was often similarly generous to others, sharing his coveted collections of wood and hardware, and occasionally even giving away one of his handplanes.

One of my favorite times at the school was when Krenov led a walk-around. About once a month we would stroll around the shop as a class, visiting every bench and discussing the various projects under way. Krenov was at his best on these excursions, full of insightful comments, criticism and humor. It was almost always very engaging, and students learned a lot through the process.

On one walk-around early in the year, he was discussing how to design with the grain. He had a couple of planks set up on sawhorses, and he was pointing out where we might find the best wood for a cabinet's legs, panels and frame pieces. He was emphasizing that the process should be conscious and rational.

"You want to work carefully," he said, "but don't get paralyzed by the process." And as he said this he dropped to one knee, his hands clasped as if in prayer, and said, "We don't sit here and pray to the plank, 'What, oh what, do you want to be?'"

Despite his sense of humor, the man himself could be temperamental. If he felt someone wasn't trying to make the most of their opportunity in the program, it could get a bit rough. This could take various forms, from abrasive comments to an argument to just being ignored. He has rubbed more than one person the wrong way, and I got on his bad side myself once or twice.

Even so, I admired his uncom-

Photo, this page (middle): Mike Seidl

promising approach. If he saw that you were striving to do your best work with sensitivity and care, he would bend over backward to help you try to pull it off. For me, it was a very effective teaching method. I got the message in a way that will never leave me, and it made all the difference in the way I work. In the course of just one year, my work went from the woodworking equivalent of the Stone Age to modern times.

Life after school

Thirteen years have passed since I spent a year with James Krenov at the College of the Redwoods. I look back on it as the best and most valuable year in my life. For me, the most important part of Krenov's instruction was the bridge it made between hand skills and machine techniques. When you have both machine and hand skills at your command, much greater range and flexibility become possible in your work. Your creativity is freed up, and you have the capability to do almost anything you want in an accomplished, sensitive way.

One criticism you often hear is that Krenov's methods are applicable only to small cabinets. I would present my own work and that of many others to refute that assertion. Since leaving the school, I have adapted the lessons to a wide range of projects—from jewelry boxes to entertainment centers, from chairs and music stands to beds and dining tables. I have made them in an uncompromising fashion very much in line with the level of work that comes out of the school. And I've managed to make a living at it.

It has been a long road to this point, all realizing a dream for me. From being charged by seeing *A Cabinetmaker's Notebook* more than 20 years ago, to learning and doing fine work professionally, and now finally to working in a shop that I have designed and built myself.

Dizzy Gillespie once said of Louis Armstrong, "If there was no him, there would be no me." I would say that statement summarizes the influence James Krenov has had on me and countless others. His adventurous way of writing, teaching and working has opened up a new world, one I continue to explore each day. □

Ross Day makes custom furniture in Poulsbo, Wash., and teaches part time in the community-college system.

ROSS DAY; MUSIC STAND AND CHEST FOR SHEET MUSIC IN FIGURED CHERRY, EAST INDIAN ROSEWOOD, BRONZE

After making these pieces, Day said, "I can understand why Krenov works at the scale he does. It is very comfortable, and it lends itself to the things he teaches—to making personal expression an integral part of the work. It's more intimate than working big, and it enables you to get fine detail without the microsurgery required on a really small piece."

RIC ALLISON, NEW YORK, N.Y. (CR, 1997-1998); COCKTAIL TABLES IN MACASSAR EBONY, GABON EBONY AND GRANADILLO

Allison arrived in Fort Bragg with a degree in architecture and furniture design and a desire to improve his skills. He didn't know if he would be free to explore in his designs but quickly found that Krenov has "a great capacity for understanding what an individual project is about and for helping push it toward its best resolution."

A cluttered, well-lighted cloister. *Clerestory windows shed natural light on some of the two-dozen projects typically under way in the benchroom. Inspired teaching, a remote location and a well-designed workshop combine to foster intense creativity at the College of the Redwoods.*

Photos, this page: Mike Seidl (top); Jonathan Binzen (bottom)

Fine Woodworking, the Dovetail and Me

Twenty-five years of pins and "tales"

BY CHARLIE DURFEE

In the pantheon of wood joints, there is the mortise and tenon, and there is the dovetail. Both are exalted—both equally essential to good work. But the mortise and tenon, while probably used more often, somehow remains the lesser god to the hallowed dovetail. What inspires such interest in a peculiar row of trapezoidal shapes along the edges of casework and drawers?

The image seems embedded in our psyches, transcending the simple act of joining wood together. In my early woodworking career, apprenticing under boatbuilding guru Lance Lee, I often heard him use "dovetail" to describe two ideas locked together. More recently I plucked a variation of the word from my subconscious when I needed an Internet password.

This magazine has embraced the row of pins and tails from the beginning, using it as a logo. The only change has been from having the pins sitting on the line to having them hang below. And 146 issues, countless articles and literally hundreds of index entries later, the dovetail remains an icon of the craft.

Even the uninitiated recog-

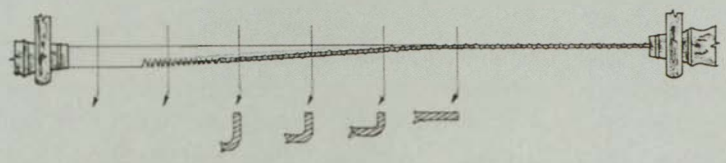
Photos, this page: Michael Pekovich (top); Asa Christiana (bottom)

Then came The Saw

ISSUE #18
OCTOBER 1979

Frank Klausz caused a stir when he unveiled this Hungarian-made bowsaw. *By means of a long bend in the blade, this custom saw cuts down the cheek of a pin or tail and across the bottom without stopping.*

How it cuts. *The front of the blade cuts vertically. Then, as the middle of the blade is engaged, the saw begins to turn the corner and cut the bottom of the socket. The bottom cut is finished using the horizontal back end of the blade.*



A view of the blade from below, with various cross sections taken, shows the gradual transition from vertical to horizontal.

nize dovetails as a sign of quality, often without knowing what they are called. Being an occasional exhibitor at craft shows, I have witnessed this scene dozens of times: A couple strolls into my booth, and one person says, "Oh, look at this," while running a hand over a piece of smooth cherry.

The other says, "And look at these!" then turns to me and asks, "What do you call these?"

"Dovetails," I say, and the light of recognition goes on, with my work being granted the highest level of craftsmanship.

Scene II, also repeated many times over: Another person, generally a young to middle-aged male, strides purposefully into the booth. He pulls out a drawer and looks at the side of it. If he sees dovetail joinery, especially if hand-cut, as mine always are, he nods approvingly. If he stays around to chat, I find out that he is another woodworker, checking out the show.

For those faced with fashioning it, the dovetail joint can inspire both confidence and alarm. Many reach for the router and finger jig. I know a veteran in the trade, who can produce pure magic with finishes—stains, French polish, color-matching and all—but will go to great lengths to avoid cutting pins and tails. On the other hand, I have seen many beginners turn out neat and clean work with marking gauge, saw and chisel, on their first try, as well as any pro.

My own experience with dovetails came with a strong taste for tradition and joinery. I had absorbed sketches of the joint in books by Charles Hayward, Aldren Watson and Eric Sloan long before owning a chisel and marking gauge. I enjoyed the honest and open approach of joining wood afforded by dovetails, either plain or fancy. Soon I was trying them on projects of my own. Indeed, I often made sure that the design incorporated the joint.

First came the sliding variety on a stool, plank legs inserted into a plank seat. It was a humble affair, but the telltale flare of the joint showed on the edges, with pride! Then came a practice set of through-dovetails in 5/4 pine, which I still have. Finally, I had a commission for a set of four pine bookcases. Ignoring economics, I hand-dovetailed all of the case corners, at great time and expense. But it was a way to learn, and I had to have them.

Along the way, I modified and fine-tuned my techniques. Not being one of the lucky ones who had friends, family or mentors to guide them, I needed to teach myself from what I could find written. Most of the references to making dovetails in the earlier books, such as Ernest Joyce's *Encyclopedia of Furniture Making* (Sterling, 1987) are only sketchy on the process. Typically, there was much about marking out the joint but little about the actual technique of cutting and fitting it.

The early issues of *FWW*

I learned much of the mechanics of cutting dovetails by actually cutting them, applying tips gleaned from the early issues of *Fine Woodworking*. In fact, my own anniversary as a woodworker coincides with the magazine's. Looking back, I can see where many of my ideas and techniques came from.

Fine Woodworking got right down to the business on the how-to of cutting dovetails. Early articles, notably those of Alphonse Mattia, Tage Frid and Ian Kirby, contain important details that I absorbed. Experienced teachers all, and working on this side of the Atlantic, they had a feel for what one needed to know to make a successful joint. I was off and running.

In the second issue, Mattia described the process in detail, being at last a source of information that could be referred to while having it open on the bench. I follow many of his techniques to this day, notably chopping out the waste halfway in from each face, leaving a slightly back-cut V in the end-grain sockets. Other articles in subsequent issues advocated different techniques. Kirby, for example, cuts out the waste with a coping saw (*FWW* #27). However, I have found that no more efficient, especially on wide sets of joints, and difficult to cut close enough to the scribe line to make a difference.

Speaking of sawing out the waste: I remember eating lunch on a stool in my shop, while

Drawing, this page: B. Mastelli

ISSUE #27
APRIL 1981

In the early issues, Ian Kirby broke down the mechanics of cutting dovetails. *His thorough discussions even covered correct body positions for paring and chopping.*

Kirby got right into the nitty-gritty, including correct body posture

consuming a newly arrived issue of *Fine Woodworking* (#18), and reading of Frank Klausz's jaw-dropping dovetail technique. First of all, layout was done by eye, with no laborious measuring and dividing of spaces. Then came The Saw. Klausz used a custom bowsaw to cut down the cheeks of a pin or tail, then, by means of a 90° twist in the second half of the blade, was able to turn the corner and cut across the bottom! It was "Six pins, five tails, in about three minutes," to quote the article. Never mind that Klausz said it left a crude cut and was used only for utility work (he chopped out the waste conventionally for fine work)—everyone wanted one of those saws.

Details for making dovetails came in spades, or should I say chisels, in Kirby's articles (*FWW* #21 and #27). He got right into the nitty-gritty, including, for example, correct body posture while using saw and chisel. While I haven't adopted all of his details, Kirby's discussions made me continue to think about these topics, and I have a sharper technique as a result. And some of his details I have adopted, such as using a long, thin knife to mark from tails to pins, and beginning saw cuts at the back corner, coming across the top, and down the front.

I also just now noticed a trick in one of Kirby's old articles—using a steel hammer while assembling to listen for tails that are too tight. Although I would worry about marring the wood (I generally use hand pressure and a rubber mallet), it is enticing enough to put this in the "give-it-a-try" file.

The early issues also began the "pins first or tails first" discussion. In the second issue, Mattia and Frid advocated pins first, for a variety of reasons. Kirby does tails first, for equally good reasons. The debate continues (*FWW* #116). I've tried both methods. For the ease of marking the pins from the tails, as well as getting the angled tail cuts out of the way from the get-go, I am a tails-first person. Besides, with half-blinds, tails-first is usually a must.

Thus, by the first few dozen issues, my style was pretty much worked out as it exists today. Of course, there were refinements yet to come (and still coming). Along with the many issues of *Fine Woodworking*, I also gleaned some good ideas from James Krenov's first two books and from Book 1 of *Tage Frid Teaches Woodworking* (The

ISSUE #116
FEBRUARY 1996

Pins first:
Tage Frid

Tails first:
Christian Becksvoort

Photos, this page (bottom): Vincent Laurence

Pins first or tails first

The age-old argument continued into the 1990s, with two contributing editors facing off. *Tage Frid (top) prefers pins first because "it's easier to hold the pin board in place to mark the tails" than vice-versa. Christian Becksvoort favors tails first because it allows him to use a knife to mark the pins.*

Don't take dovetailing too seriously

Taunton Press, 1979), which covered joinery.

Hand-cut vs. machine-cut

I am a hand-cut dovetail person. If you're looking for a discussion here of Keller vs. Leigh, or bandsaw vs. tablesaw, you will be disappointed. I have fooled around with most of these and even once spent three days constructing a router jig, because it looked easy and I thought I could save money. The jig turned out to be a clumsy affair. I used it for one job, and it has been gathering dust ever since. I would hate to calculate the payback for that one.

Granted, on anything more than a couple of drawers, the power tools are faster and can be very accurate. But they are just that, accurate machines, and in a world where an individual craftsperson has to put his mark on the work and try to separate it from the rest, handcut dovetails offer a way to stand out. Besides, the process is easier on the nerves and lungs, and they look great.

The wild and the wacky

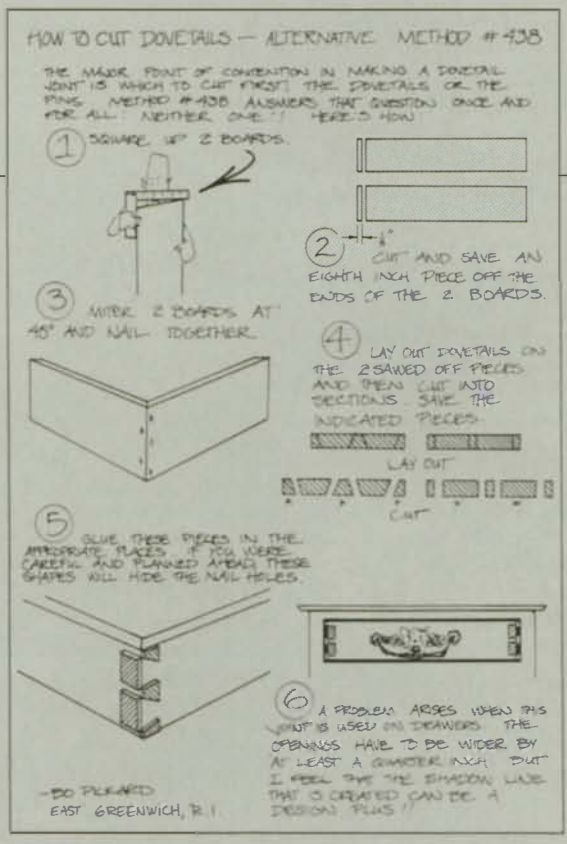
The search for dovetailing techniques also leads us down some unique byways. Down the awe-inspiring road, one finds such variations as "lovetails," where the pins are cut in the shape of hearts (*FWW* #83); Bermudan "cogged" dovetails, in which the outer face is cut into a decorative pattern (*FWW* #35); and half-blind mitered dovetails (*FWW* #104), where the joint is mitered, and the dovetails show only on one face. Down the difficult but practical fork are angled dovetails (*FWW* #80); dovetails on a dome-lidded chest (*FWW* #56); and the full-blind variety (*FWW* #5).

One of my favorite ideas belongs on the throw-up-the-hands-and-to-heck-with-it-all road. A reader suggested slicing thin end pieces off two boards before mitering them together—with nails, no less (*FWW* #41). The slices are then cut into end-grain pin and tail shapes and glued to the mitered pieces in the familiar pattern. And if the work is on a drawer, don't forget to leave some space for the protruding pins! Moral: Don't take dovetailing, or woodworking for that matter, too seriously.

While I have cut countless sets of pins and tails, I very clearly remember one set from hell. When I was still doing boat joinery, I built a skylight of 10/4 mahogany with dovetailed corners, to be installed in a large schooner. During assembly, on a hot and sticky day, the joints stuck half-open and wouldn't slide together. I had to bust them apart with a sledgehammer. After remaking one broken piece, cleaning up the mess and paring back the joints a bit, the second attempt at assembly worked. It was delivered and installed. The boat was launched, sailed south, and on the return trip in the spring, sank in a storm. So my dovetailed skylight now rests two miles under Atlantic waters. There is a lesson in this story, but I'm not sure just what ... maybe forcing dovetails into existence is a wasted effort.

I do know, however, that dovetailing can lead to lofty heights. And may it always. □

Charlie Durfee is a furniture maker in Woolwich, Maine.

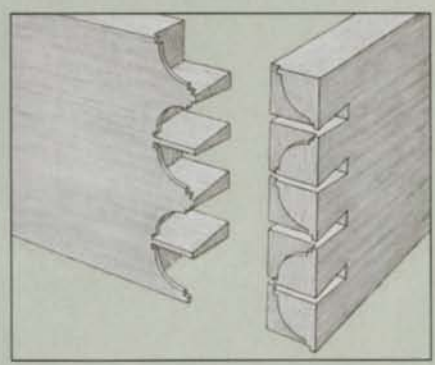


ISSUE #41 AUGUST 1983

This contributor to the Letters page went to great lengths to avoid cutting the real thing. *He advocated pin and tail tabs glued to the corner of a drawer and left proud, no less.*

ISSUE #35 AUGUST 1982

One of the most elaborate styles hailed from Bermuda, where cabinetmakers follow a tradition of ornamental joinery. *"Cogged" dovetails are a half-blind version in which the outer face is cut into a decorative pattern.*

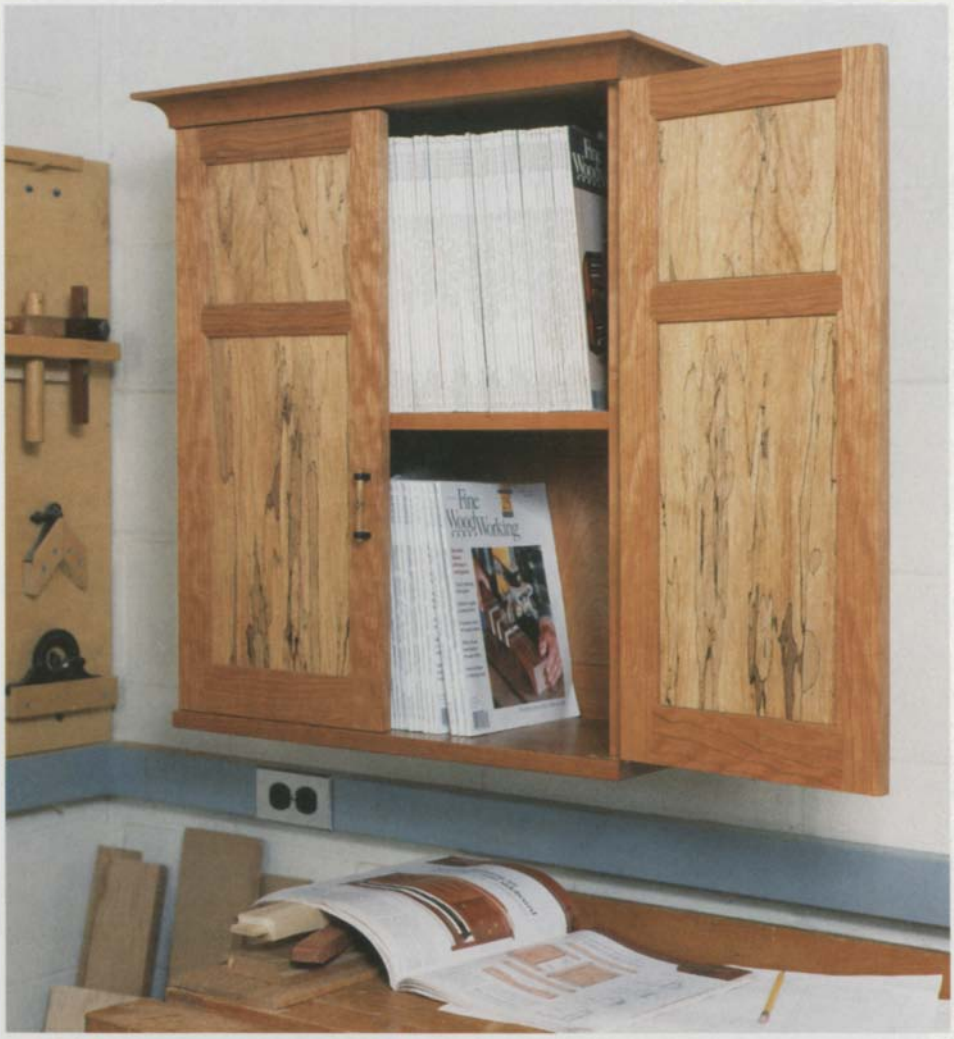


ISSUE #83 AUGUST 1990

Tired of dovetails? Try "iovetails." *This affectionate variation was employed on a mahogany cradle in a 1990 project article.*

Drawings, this page: Bo Pickard (top); Roland Wolf (bottom)

Magazine Cabinet



Strong joints ensure that this wall-mounted cabinet can handle a quarter century of *Fine Woodworking* magazines

BY CHRIS GOCHNOUR

Like many woodworkers I know, my shop and resource library are in different locations. My detached garage serves as my shop, but I keep books and my collection of *Fine Woodworking* magazines stored in a bookcase in the basement of the house. My workshop doesn't have a shelf or cabinet big enough to store them all. I finally decided to do something about the problem and set out to design and build a cabinet deserving of the body of knowledge I've gained from *Fine Woodworking*.

The cabinet would have to hold more than 25 years, or 100 lbs., of magazines, so it had to be sturdy. I also needed it to be compact. There's not a lot of empty wall space in my shop. And most of all, I wanted the design to be minimal, something that

Photo, this page: Michael Pekovich

WALL-MOUNTED CABINET CAN HANDLE A HEAVY LOAD

Made of cherry and spalted maple and constructed using through-dovetails on top and wedged mortise and tenons at the base, the cabinet can withstand heavy loads (146 issues of *FWW* weigh more than 100 lbs.). A French cleat provides secure mounting to a wall.

would let beautiful wood and simple form speak for themselves and blend in nicely with my nearby tool-storage cabinets.

Durable joinery is critical

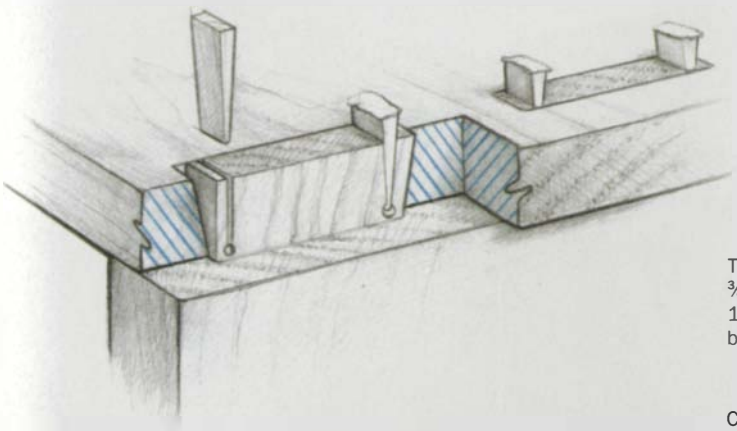
I constructed the cabinet using two durable joints: through-dovetails (to attach the top to the sides) and wedged mortise and tenons (to attach the bottom to the sides). A piece of cove molding, cut on the tablesaw (see *FWW* #102, pp. 82-85), serves as a crown and obscures the dovetails, which I cut quickly using a Leigh jig.

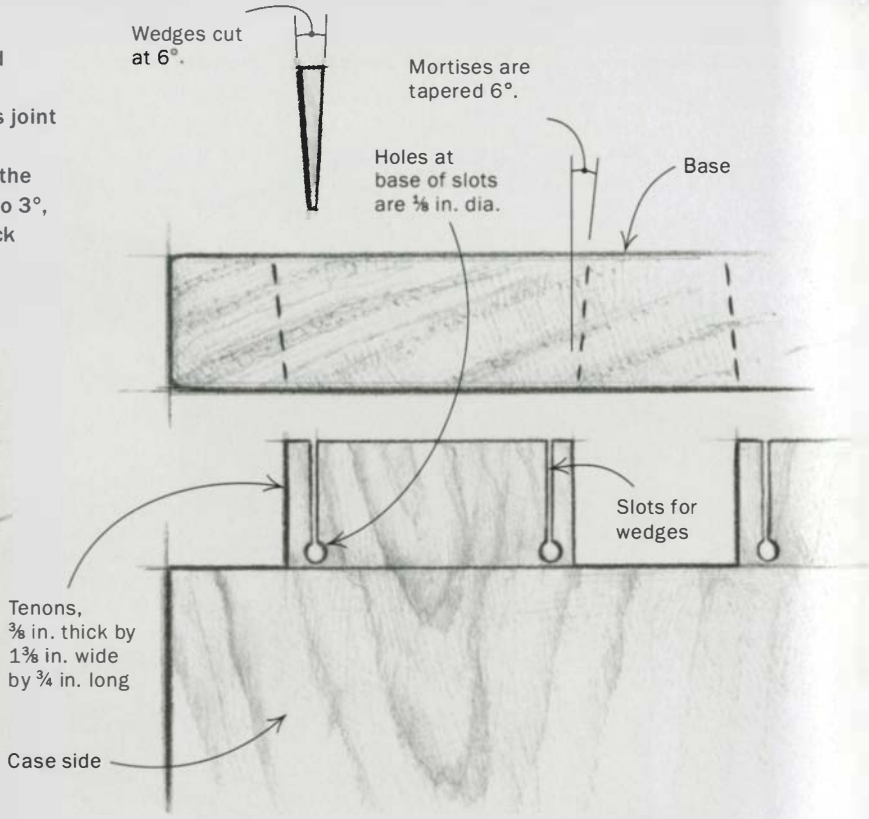
There were two reasons for using wedged mortise and tenons on the base. One, I wanted a continuous line with a slight overhang at the base of the cabinet. That ruled out using through-dovetails. Second, I wanted the cabinet to be tough. A wedged mortise-and-tenon joint is very strong, even if the glue fails. Sliding dovetails also would have worked, but I wanted something different. Wedged mortise and tenons work mechanically like dovetails,

Drawings: Bob La Pointe

WEDGED MORTISE AND TENONS, STEP BY STEP

Wedges are driven into slotted tenons that fit into tapered mortises. In cross section, this joint resembles a dovetail. When making the wedges (left), set the miter gauge on the tablesaw to 3°, cut one side, then flip the stock and rip off a wedge.





1. Start by cutting tapered mortises

Cut through-mortises. *Cut halfway through one side, then flip the stock and finish from the other side to avoid tearout.*

Mark the tapers for the mortises. *Use a bevel gauge set for 6° and mark the edge, then transfer the marks to the bottom face with a square.*

Working from the bottom, taper the edges of each mortise. *The author uses a guide block, cut at 6°, and a chisel the same width as the mortise.*

because the tenons are flared to fit tapered mortises (see the drawings above). One could certainly use this joint at the top of the case, but it takes a little longer than cutting dovetails using a router jig. Before laying out and cutting the mortises and tenons for the base, I completed all of the joinery at the top, then dry-fit the assembly.

I cut the mortises using a hollow-chisel mortiser. To minimize tearout, I cut halfway through one side, flipped the stock and then finished cutting from the other side. When all of the mortises had been chopped, I beveled them 6° using a guide block and a sharp chisel.

Next, I began cutting single, full-length tenons on the tablesaw. Then I positioned the tenoned sides against the mortised base and marked off the locations of the individual tenons. The tenons were cut using a backsaw and a coping saw, and I cleaned them up with a chisel. All of the tenons were slotted to receive a pair of wedges.

Cutting the wedges gave me the opportunity to do something odd: rip stock using a miter gauge. The wedges were made from an offcut, from the end of a board; the

Photos, except where noted: Anatole Burkin

2. Locate the tenons from the mortises

Machine one long tenon on each side of the case. *The author cuts the tenons slightly deeper than the mortises; the excess will be trimmed off after the glue-up.*

Mark off the individual tenons. *Use the already mortised base as a guide.*

Cut slots in the tenons. *Each tenon receives two slots. When wedges are driven, the tenons flare out, creating a secure joint.*

wedges can be of the same species as the cabinet (what I did) or of a contrasting species. I set the miter gauge to 3° and took one pass, technically a ripping cut, then flipped over the stock and took another pass to make a 6° wedge. For safety I used a zero-clearance throat plate.

Back and shelf sit in grooves

With the basic carcase joinery completed, grooves must be milled to receive the cabinet back and shelf. (Refer to the drawing on p. 109 to see which grooves are stopped and which can safely be run through.) The fact that the frame-and-panel back fits into grooves is a bit unusual because backs are typically installed in rabbets. But because this cabinet attaches to the wall using a ¾-in.-thick French cleat, I had to move the back into the case by that amount. Also, I wanted to fit the French cleat to the case using mortise-and-tenon joints. Cutting a deep rabbet would have left me without enough wood to cut a good mortise. So I went with shallow grooves to house the back, which makes glue-up a little tricky. More on that later.

The shelf sits in a stopped dado cut into the sides of the cabinet. It is set back slightly from the front of the case. The shelf must also be tenoned.

Traditional frame-and-panel doors with handmade pulls

The doors are classic frame-and panel construction and are hung on knife hinges. I

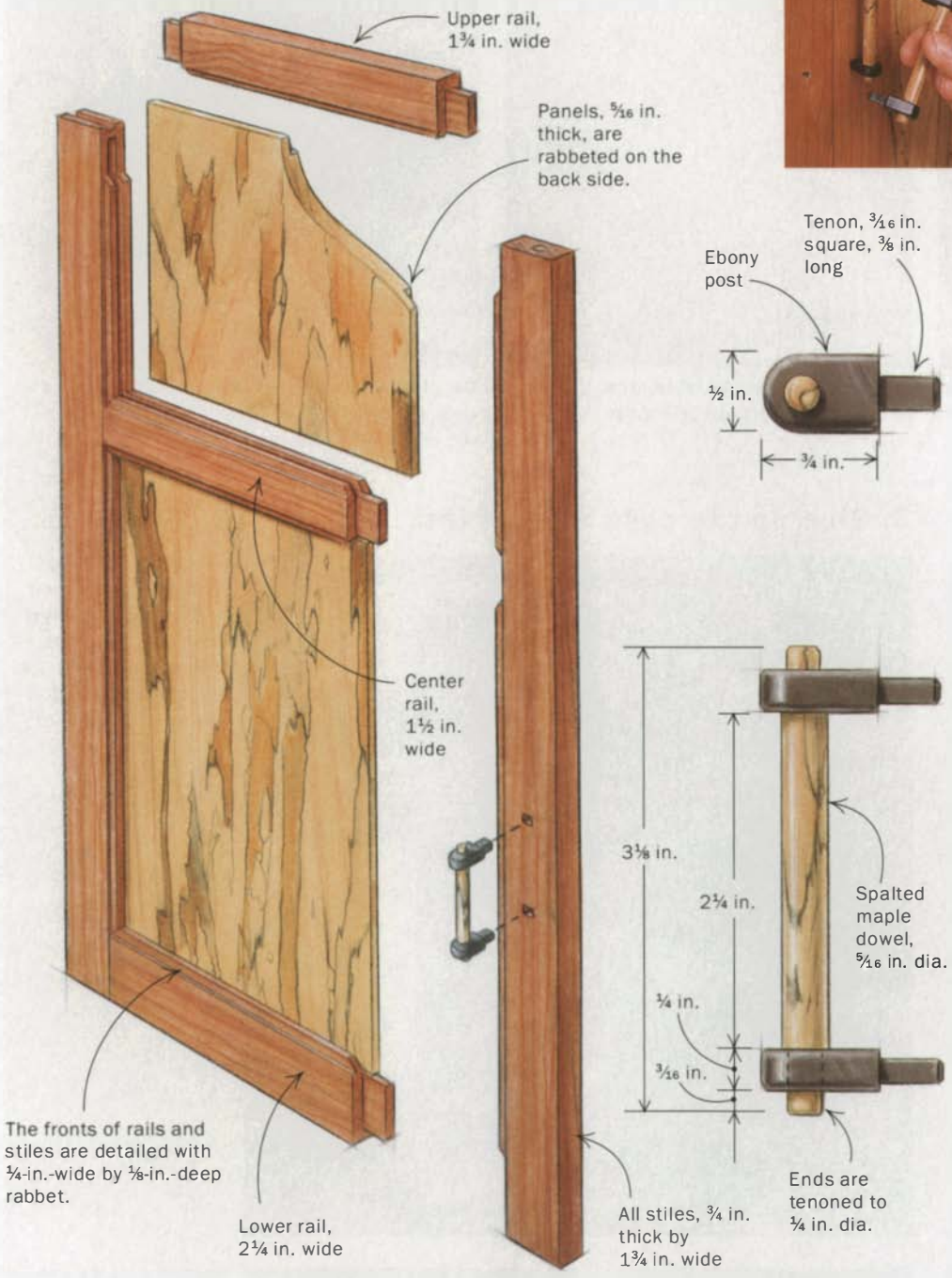
3. Glue up the case bottom last

In the first glue-up, the sides are joined to the top, back and shelf. *It's less stressful to leave the bottom for last and not have to worry about trying to get everything done at once before the glue sets.*

Spread glue on the surfaces of the mortises, tenons and wedges. *Gently tap the wedges in place. Clamps hold the carcase together. After the glue dries, trim the wedges. A flush-cutting saw makes the job easier.*

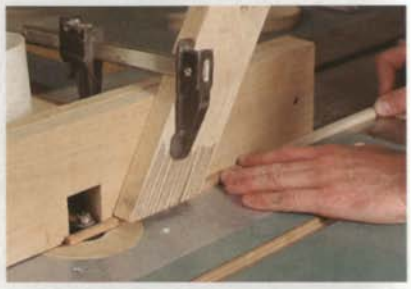
SPALTED PANELS HIGHLIGHT SIMPLE DOORS

To achieve a visual balance, the lower rails are wider than the upper rails. And the pulls are centered in relation to the lower panels.



Shopmade door pulls

The pulls, made of spalted maple and ebony, complement the color and grain found in the panels.



Dowels can be made on the router table. *Take two passes, leaving the end of the stock unmilled, to provide a flat, stable support.*

Begin with an ebony blank ¾ in. thick by ¾ in. wide and 12 in. long. *Rout the ends with a ¼-in. radius roundover bit. The adjoining piece prevents tearout.*

Cut 3/16-in. square tenons on the posts. *Each blank is good for two posts, one on each end.*

cut a very slight rabbet on the faces of the rails and stiles, where they meet the panels (see the drawings above), to produce delicate shadow lines. The final touch is a pair of shopmade pulls.

The pulls are spalted-maple dowels, tenoned at each end, attached to the doors using ebony posts, also tenoned. Although a lathe could be used, I chose to shape the dowels on my router table. I simply made two passes over a 5/16-in.-dia. bead cutter and did a little sanding. To shape the tenons on the ends of the dowels, I used a plug cutter, mounted in a drill press.

I needed only a sliver of ebony to make the posts, but I used a piece that was long enough to be milled safely. The stock had to be milled in steps, then ripped into narrower pieces, then machined again. I was surprised how much work went into these parts. When done, I slipped the dowels into the posts and glued the posts into mortises chopped in the stiles of the doors.

Mounting the doors—Knife hinges are a little tricky to install (for more on knife hinges, see *FWW* #111, pp. 48-51), because

they are mortised into the case and doors. To install the hinges, I first dry-assembled the cabinet. I put the hinges on the doors, then placed the doors against the case and marked the locations of the hinges. To take into account the gap between the door and the edge of the case when marking the hinge locations, I used a 1/16-in.-thick ruler as a shim. Then I disassembled the cabinet and cut knife-hinge mortises into the cabinet top and bottom.

The cabinet hangs on a French cleat

A French cleat (also called beveled cleat) is a very sound way of securing a cabinet to a wall (see p. 38). The method employs two interlocking pieces. One cleat is attached to the top of the cabinet back and the other to the wall. A cabinet is simply hung over the cleat, and gravity keeps it from going anywhere. There are no ugly screws to mar the inside of the cabinet, and it's easy to move or relocate the piece should you decide to do so.

Any hardwood will do for the cleat. I chose maple because of its toughness. I strengthened the cleat by attaching it to the cabinet using mortise-and-tenon joinery. The cleat mounted to the wall must be securely fastened to studs using lag bolts or two #12 by 3-in. screws per stud.

Don't glue up the carcase all at once

The glue-up of this cabinet poses a few challenges. To buy a little extra time on this complex glue-up, I use Titebond Extend wood glue. I broke down the glue-up into two phases, because even this glue would not give me enough time to complete the entire job. First, I glued up the dovetails, the back, the beveled cleat and the shelf. To help keep the carcase square, I dry-fitted the base in place and let the assembly dry for several hours.

Once the glue set, I glued the base in place. I used clamps to ensure that the tenons would seat themselves, then coated the wedges with glue and drove them home. Once the wedges have been driven, you're at the point of no return: The case will not come apart, so the clamps may be removed. Once the glue dried, I cut off the protruding wedges and planed the tenons flush with the base.

Oil and lacquer finish is sprayed on

I chose an oil and lacquer finish for the cabinet because the oil brings out the richness and depth of the wood, and the lacquer produces a nice luster.

Spalted maple can be a difficult wood to finish. It is, after all, slightly rotted, and it often suffers from soft, punky areas that absorb finish at different rates, creating an uneven sheen. To get around that problem, I finished the maple panels first by spraying on numerous coats of lacquer, sanding between coats, until the finish built up to an even sheen.

For the cherry, I used clear Watco oil, thinned 50% with naphtha to speed up drying. Naphtha outperforms paint thinner because it's a faster-drying solvent. I sprayed the entire cabinet with this mixture (don't worry; when the lacquer is dry, the oil won't harm it), then wiped down the piece and let it dry overnight.

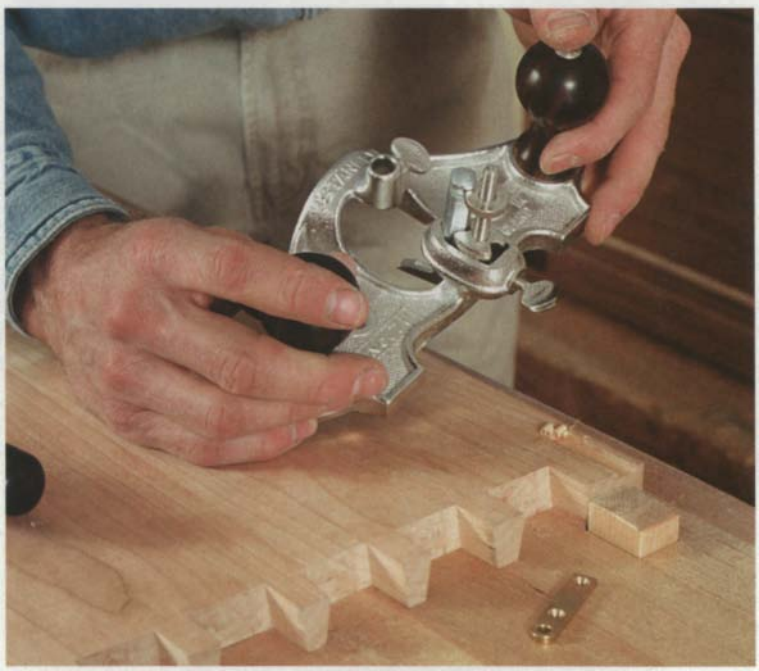
The following day I sprayed on two thin coats of lacquer, which gave me the luster I wanted without the effort of a rubbed-out oil finish. The finish was dry to the touch a few hours later, but for peace of mind I waited a day or two for it to cure before filling up the cabinet with my collection of *Fine Woodworking* magazines. □

Chris Gochnour builds custom furniture in Salt Lake City, Utah.

HANGING DOORS WITH KNIFE HINGES

Mortise the doors and attach the knife hinges. *Note that the pivot pin must be located beyond the door's edge. Use waxed steel screws to cut the wood fibers. Later, replace them with the delicate brass screws.*

You need a slight gap between the door and edge of case. *The author uses a 1/16-in.-thick ruler as a shim, then transfers the location of the knife hinges.*



Rout knife-hinge mortises in the case. *It's much easier to cut mortises before gluing up the carcase. The author used a router plane.*

Gallery

The furniture chosen to grace the pages of *Fine Woodworking* over the last two-and-a-half decades reflects the tastes of the editors, our authors and you, our readers. It's hard to say who had the greatest impact. The magazine has always made an effort to include a wide variety of work and ideas. And that's what we kept in mind as we sifted through 145 issues, looking for fine examples of furniture, from classic to contemporary. Enduring styles such as Queen Anne, Chippendale, Arts and Craft and Shaker are included, as are more modern pieces that show the influences of 20th-century woodworkers.

Arthur Espenet Carpenter

FWW #1 "Sometimes his pieces look rustic, sometimes elfin, sometimes like playful imitations of the grand schemes of nature."—Rick Mastelli writing about Carpenter in *FWW* #37.
Photo: Arthur Espenet Carpenter

Garry K. Bennett

FWW #24 Bennett stirred up a lot of woodworkers with his "desecration" of a finely crafted cabinet. The bent nail that serves as a door pull invoked howls of protests from many readers who did not take kindly to his whimsy. While on exhibit, some viewers scrawled comments on the undersides of drawers, and then signed and dated them. Photo: Lee Fatherree

Silas Kopf

FWW #53 Kopf studied marquetry at the prestigious Ecole Boulle in Paris. The illusion here is not limited to the open doors and cat; even the pulls are done in marquetry.
Photo: Dave Ryan

George Nakashima

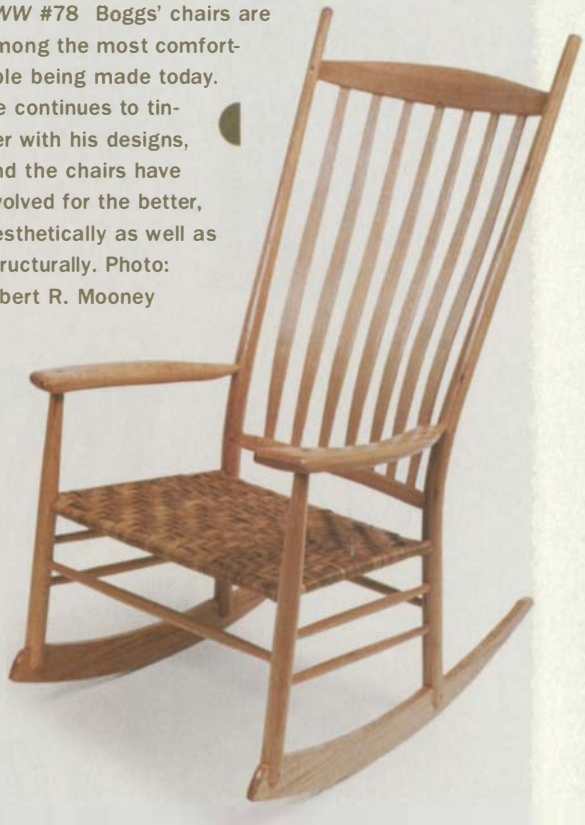
FWW #79 Nakashima (1905-1990) is most well-known for his widely copied natural-edge slab tables and this elegant cantilevered chair, which is still being produced by the family business.
Photo: George Erml, courtesy of American Craft Museum

Wharton Esherick

FWW #19 The organic furniture designed and built by Esherick (1887-1970) beginning in the 1920s seemed glaringly modern for its time and influenced a generation of craftsmen. Photo: Courtesy of the Smithsonian National Museum of American Art

Brian Boggs

FWW #78 Boggs' chairs are among the most comfortable being made today. He continues to tinker with his designs, and the chairs have evolved for the better, aesthetically as well as structurally. Photo: Albert R. Mooney



David Lamb

FWW #138 Lamb's commissioned work has included faithful reproductions of complex 18th- and 19th-century furniture. He is a founding member of the New Hampshire Furniture Masters Association. Photo: Dean Powell, courtesy of New Hampshire Historical Society

William S. Wooton

FWW #87 Wooten's Patent Desks, built in the 19th century, were known as the king of desks. They have numerous storage compartments and a fold-down writing table. All of the moving parts close up so that the entire contents may be locked. Photo: Courtesy of Richard and Eileen Dubrow Antiques

Timothy Philbrick

FWW #110 Philbrick began his career restoring and reproducing 18th-century furniture. Much of his later work bears a strong link to the Art Deco Period. Photo: Courtesy Peter Joseph Gallery

Mary Ann Nardo and Jon Mitguard

FWW #130 Nardo, a painter, and Mitguard, a woodworker, are business partners as well as husband and wife. Nardo's designs, mostly in watercolor, are painted over Mitguard's cabinets, usually made of quartersawn Douglas fir. Photo: Jay Daniel

John Dunnigan

FWW #41 The 15 coats of black lacquer give Dunnigan's table a gleaming, bottomless finish. The top is purpleheart, and the pink feet are epoxy resin.
Photo: Courtesy of John Dunnigan

Michael Fortune

FWW #30 Fortune is well-known as a teacher and furniture designer. The arms and legs are steam-bent; the back slats are laminated.
Photo: David Allen

Craig Nutt

FWW #143 Nutt specializes in furniture and sculpture whose inspiration seems rooted in the vegetable garden. The Renwick Gallery of the Smithsonian National Museum of Art purchased this functional salad bowl (the top comes off). Photo: John Lucas

Gary Rogowski

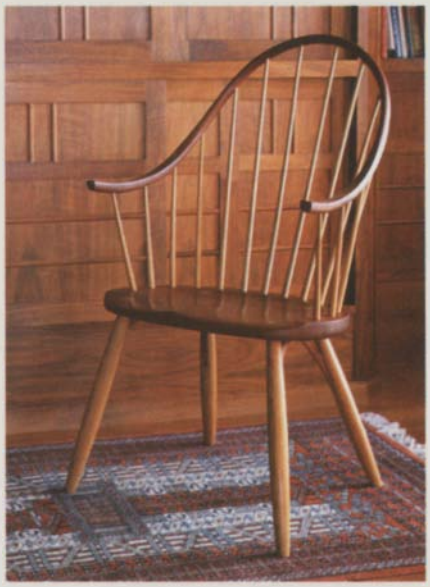
FWW #125 Rogowski's rendition of a Greene and Greene sideboard includes a breadboard top, ebony plugs and inlaid ginko leaves. The project was detailed over three issues (#125-#127).
Photo: Jim Piper

Paul Harrell

FWW #107 Clean lines and well-balanced proportions mark this contemporary piece built with shop-sawn veneers. Harrell was able to get all of the veneer for the doors, the side panels and the drawer fronts from one plank of jarrah, ensuring a good match. Photo: Sloan Howard

Ronald Layport

FWW #89 Layport said he had difficulty parting with this beautiful hutch, his first commission. He designed it based on pieces popular in middle America between 1730 and 1840. Photo: Chuck Fuhrer



Thomas Moser

FWW #128 Moser first advertised his rendition of the continuous-arm Windsor in *New Yorker* magazine. The marketing strategy worked very well for the former English teacher. Today his furniture-making business employs more than 100 people. Photo: Zachary Gaulkin

Christian Becksvoort

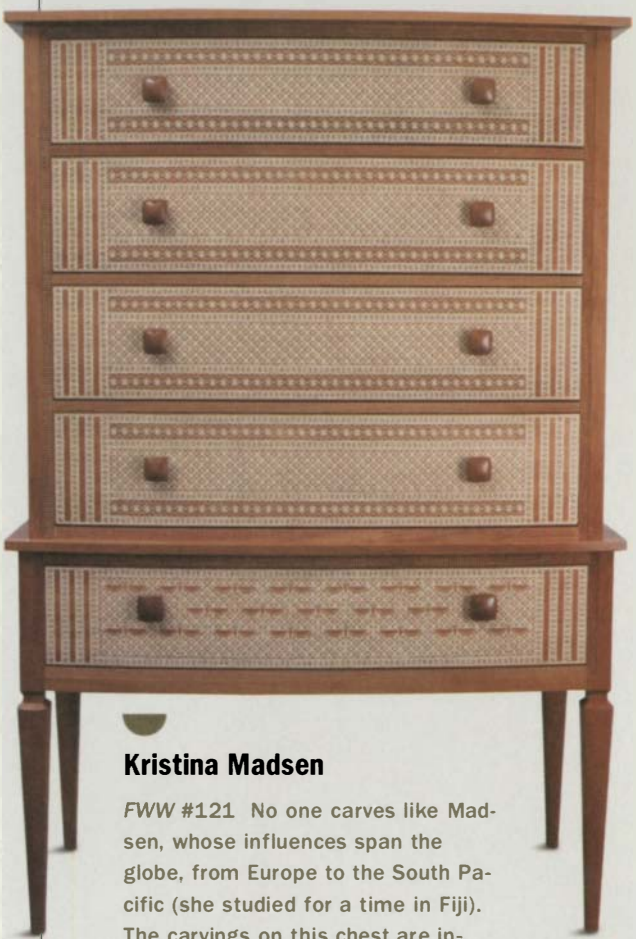
FWW #110 Whether you prefer to call it a nightstand, reading-lamp stand, candle stand or round table, this classic Shaker piece was first built by a craftsman in Hancock, Mass., ca. 1830. *Fine Woodworking* Contributing Editor Becksvoort has built a successful woodworking business making furniture in the Shaker style. Photo: Robert Marsala

Hans Wegner

FWW #21 Wegner's well-proportioned and comfortable chairs were instrumental in popularizing Danish furniture. His chairs are in major museum collections around the world. Photo: Doug Long, Photocraft

Frank Pollaro

FWW #111 Pollaro has made a specialty of veneered work, and this sunburst table shows his mastery of the craft. The table was featured in an article that described how to match and cut veneers for different effects. Photo: Susan Kahn



Kristina Madsen

FWW #121 No one carves like Madsen, whose influences span the globe, from Europe to the South Pacific (she studied for a time in Fiji). The carvings on this chest are inspired by Victorian embroidery. Photo: Jonathan Binzen

Chad Voorhees

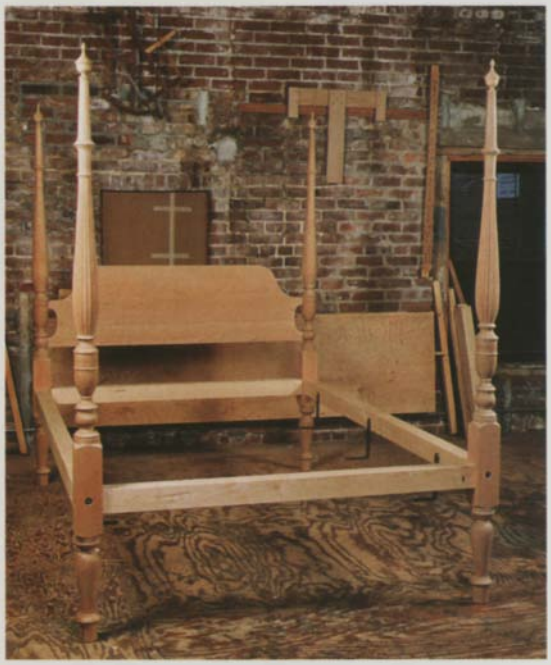
FWW #92 "I want my pieces to stand by themselves but not necessarily stand out," Voorhees wrote in 1992. This table incorporates Art Deco elements. Photo: Clay Algeo

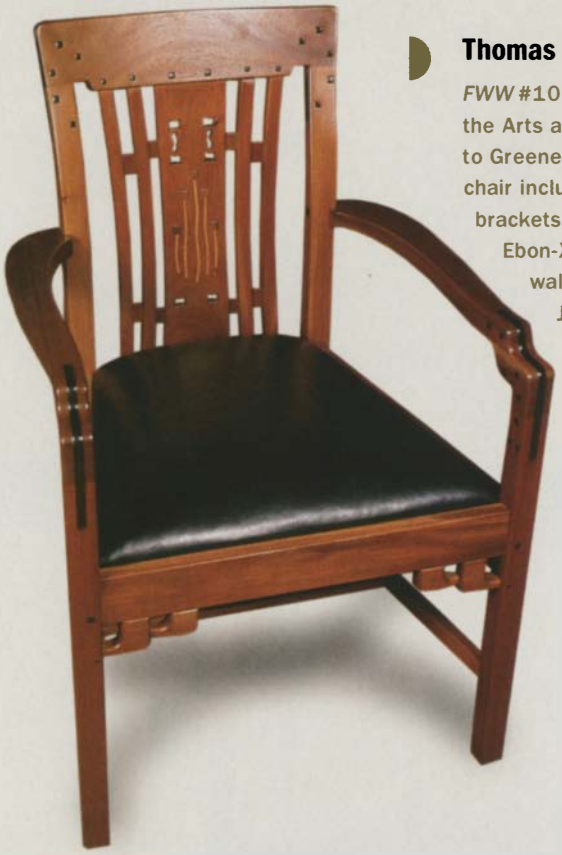
Douglas Mooberry

FWW #124 Ornate spice boxes were used by early Pennsylvania settlers to house valuable keepsakes. The tombstone door hides from view numerous small drawers, each dovetailed and fitted to dividers. Photo: Anatole Burkin

Phil Lowe

FWW #113 Lowe, a frequent contributor to *Fine Woodworking*, specializes in 18th-century furniture. The posts on the footboard are reeded, a time-consuming task using a V-carving tool and gouges. Photo: Charley Robinson





Thomas Hugh Stangeland

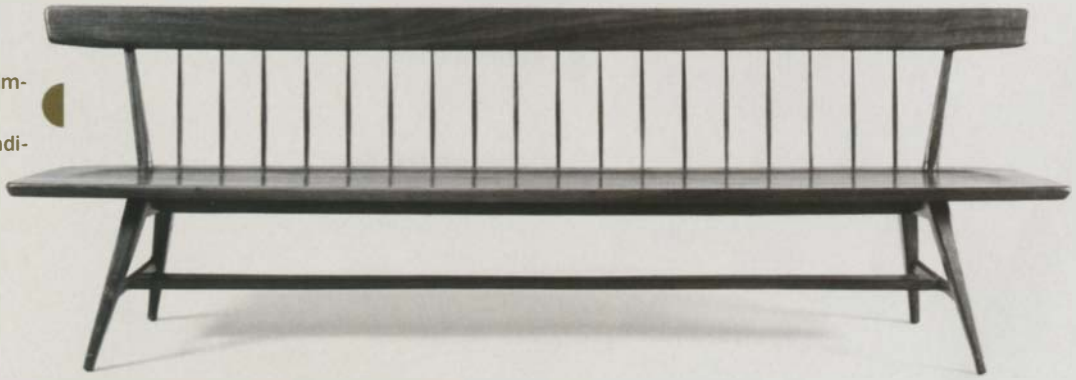
FWW #106 Stangeland works in the Arts and Craft style particular to Greene and Greene. His armchair includes the classic Chinese brackets and ebony (actually Ebon-X, chemically altered walnut) detailing. Photo: Jonathan Binzen

Jere Osgood

FWW #6 Furniture by Osgood swoops and curves and makes one wonder how he gets the wood to follow his flowing designs. His bent laminations take the form to new levels. Photo: Courtesy of Jere Osgood

Walker Weed

FWW #38 Weed was able to seamlessly combine the influences of George Nakashima, modern Scandinavian and Shaker styles in his works. Photo: Jeffrey Nintzel



Wendell Castle

FWW #31 Although the name Wendell Castle may bring to mind flowing, sculptural works (such as his Dali-like molten clocks), he also designs furniture that looks more contemporary than surreal. Consistent, however, is an attention to detail and originality. Photo: Steven Sloman

John McAlister

FWW #129 The self-taught McAlister, an amateur woodworker, was 73 when he finished this impressive piece. His research included several trips to England to measure originals and to speak with curators and other period furniture makers. Photo: Pat Shanklin

Peter Turner

FWW #139 If the Shakers had televisions, they might very well have built a piece like this. Turner's case has room for audio and video equipment as well as storage for CDs and videocassettes. Photo: Michael Pekovich

Terry Moore

FWW #90 This contemporary piece has delicate, airy proportions and is meant for handwritten correspondence. But a laptop computer would not look out of place, either. Photo: Thomas Ames

David Upfill-Brown

FWW #94 One of Down Under's most respected furniture makers, Upfill-Brown recently became academic director of the new Australian School of Fine Furniture.
Photo: Scott Donkin

Randall O'Donnell

FWW #117 O'Donnell's interpretation of a 1750 Massachusetts highboy has a blocked apron, finials, arch cutouts and shells. O'Donnell covered the building of the piece in a three-part series (#117-#119).
Photo: Boyd Hagen

Mike Dunbar

FWW #16 The Windsor chair dates back to the early 18th century and endures to this day, in no small part due to people such as Dunbar, who has made a business out of teaching others how to make it using mostly hand tools.
Photo: Andrew Edgar

Gene Lehnert

FWW #101 The spindle-style Morris Chair, designed at the turn of the century by Gustav Stickley, is an enduring design. Craftsman-style furniture continues to be a favorite with readers of *Fine Woodworking* as well as with the public at large. Photo: William Sampson

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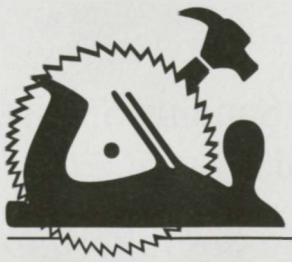

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Jan. 5-7

MARYLAND – Baltimore
Maryland State Fair, Timonium, MD

RHODE ISLAND
RI Convention Center, Providence, RI

Jan. 12-14

NORTHERN NEW JERSEY
Garden State Exhibit Center, Somerset, NJ

ARKANSAS
Arkansas State Fairgrounds, Little Rock, AR

Jan. 19-21

OHIO
Ohio Expo Center/Fairgrounds, Columbus, OH

NEW YORK
Empire Expo Center, Syracuse, NY

Jan. 26-28

INDIANA
Indiana State Fairgrounds, Indianapolis, IN

PENNSYLVANIA - Pittsburgh
Pittsburgh Expo Mart, Monroeville, PA

Feb. 2-4

WISCONSIN
Wisconsin State Fair Park, Milwaukee, WI

TENNESSEE – Nashville
I-24 Expo Center, Smyrna, TN

Feb. 9-11

ILLINOIS/MISSOURI – Greater St. Louis
Gateway Center, Collinsville, IL

SOUTH CAROLINA – Columbia
SC State Fairgrounds, Columbia, SC

Feb. 16-18

KANSAS – Kansas City
Int'l. Trade Center, Overland Park, KS

Feb. 23-25

CENTRAL FLORIDA
Florida State Fairgrounds, Tampa, FL

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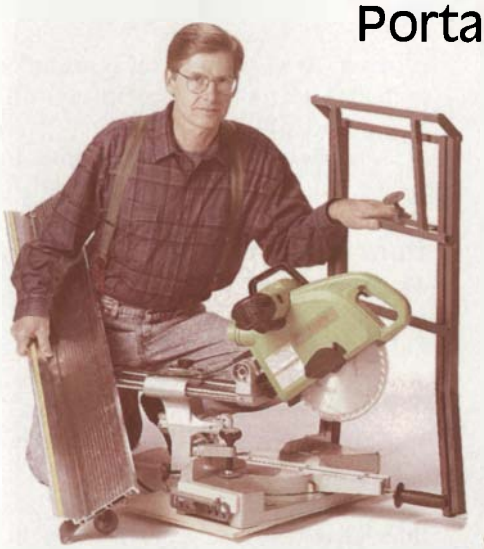

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Essays on woodworking from our readers

Throughout the year we asked readers to write essays about their woodworking: how they got started, who taught them the most, how their woodworking has changed in 25 years and what role *Fine Woodworking* has played in their growth. From among the hundreds of responses, the editors picked their favorites, which are printed here. You can also read more of these short essays on our web site at www.finewoodworking.com.

Dunbar's lesson: more to life than power

Mike Dunbar would far and away have to be the person who taught me my most valuable lesson about woodworking. When I first started, I subscribed to the belief that power tools make a good woodworker. Dunbar's book *Restoring, Tuning and Using Classic Woodworking Tools* (Sterling, 1989) showed me that skill in woodworking comes not from a garage full of power tools but from mastering hand tools. He also made me realize that many things can actually be done just as quickly with hand tools as they can with power tools.

–Matt Mulka, University of Notre Dame

Death threat leads to woodworking

"If you don't get a hobby, you're going to die," my wife said. Did she mean I was going to keel over from the pressure of my job, or was she going to kill me herself? I didn't know. But I could take a hint, and I used her "suggestion" as an opportunity. That afternoon I took a trip to the tool store. It was a whole lot of guilt-free fun to go from nothing to owning the Delta jointer, bandsaw and tablesaw I'd always wanted. After those big purchases, the smaller hand tools arrived over the next few months. Assembling these tools was better than waking up as a kid on Christmas morning.

Through the years I've taught myself almost everything from books and magazines. A famous sculptor once said the statue was what was left after he finished chiseling away stone that didn't belong. I haven't gotten good enough at woodworking to see the finished piece in a pile of lumber, but there's always hope.

–Jeff Sales, Winter Garden, Fla.

Italian revelation changes a life

One year ago, I was working in Florence, Italy, in a boring job. I picked up *Fine Woodworking* in an airport and began such a quick process of rehabilitation that my head is still spinning. Over the next month, as I tried to suffer through my 20 hours of deskwork, I read through that magazine cover to cover many times over. I decided that I couldn't live in a world that didn't include the ability to build rocking chairs like Sam Maloof's, or have things like chisels and planes as legitimate tax deductions. Within 40 days I was on a plane, apartment rented, boxes in storage, fiancé weeping, chisels sharpened and ready for an intensive internship in boatbuilding. Two months ago I finally received my tax ID number, my first check and my first taste of the life I have always wanted to live.

–Eliza Camp, San Miniato, Italy

Lessons from a father's toolbox

My interest in woodworking began when I was about 6 years old. My dad was always neat and orderly and hoped that some of his habits would rub off on me. However, I was more interested in building stuff than in cleaning up my mess. One day he came home from work and saw all of his tools scattered around the basement. He threw up his hands in despair and padlocked his tool chest, so I couldn't use it when he wasn't home.

After a few days of pouting, I discovered that I could unscrew the hinges and remove the lid. I talked my mom into giving me a 30-minute warning before my dad came home from work: ample time to clean up the mess and get the lid back on. This went on for about a year. Then one day I looked at the tool chest and saw that the hinges and screws were all chewed up, the work of an inexperienced screwdriver operator. Dad must have known all along; it was just his way of teaching me how to take care of my stuff. That Christmas I was rewarded with my own tool chest complete with hinges and lock.

–Armin Gollannek, Munising, Mich.

A lesson for life from woodworking

My father taught me the most valuable lesson, not only in woodworking but in life as well. He taught me to take my time and do a job right the first time. This way it won't have to be done again. I have taken this philosophy with me my whole life and instilled it into my sons as well. And because I do the job right the first time, I have become very successful in my woodworking and in my die-making.

–Pieter H. Stegman, Warren, Mich.

From Norm to Goddard

Norm Abram and Roy Underhill were my inspirations, while *Fine Woodworking* and The Taunton Press books have been my "formal training." The late and great *Home Furniture* magazine was the real turning point in my woodworking, with an article on a Goddard-Townsend slant-front desk being all it took to steer me to period furniture. John Townsend is my inspiration for furniture that I build today.

–Larry Arnold, Loganville, Ga.

Bartering beginnings

I am in the car business, and one day a customer traded in an old truck and a Rockwell 10-in. tablesaw for another truck. I took the saw home, played with it and then decided to make a bookshelf I had been wanting for a long time. Ten years and about $10,000 later, I am still working wood and have a shop full of equipment. And I thought golf was addictive.

–Bob Richerme, Germantown, Tenn.

A link with the past

My father was an avid woodworker, but as I grew up and went off to school, I regretted not having time to make sawdust with him. Unfortunately, he passed away just as I finished my education. However, I took his tools and set up shop. Over the years my skills have grown (partly thanks to *Fine Woodworking*). I get a quiet satisfaction

continued on p. 131

with the completion of a well-executed project that is unmatched in any other endeavor in life. Woodworking is more to me than a wonderful creative outlet; it is a way to stay close to my father.

–David Sparks, Foothill Ranch, Calif.

I learned early: build to last

I discovered woodworking out of necessity. In 1975, when my wife and I were newlyweds, we did not have much, nor was my income sufficient to provide us with new furniture. My first project was a lamp that I turned on a lathe at Miramar Naval Air Station. I turned a simple cylinder after gluing up the pieces of wood. Then I assembled all of the pieces, and my wife selected the shade. That lamp is still in use, and it taught me one simple rule: If you build it as well as you possibly can, it will probably outlast you.

–Jack Stevenson, Grants Pass, Ore.

Maloof rocked me off my feet

Beautiful lines, sensual surface, both silky soft and ruggedly hard at the same time. A simple yet sinuous movement while remaining motionless. I speak of my first encounter with a Sam Maloof rocking chair nearly 30 years ago. That chance meeting at a local museum set me on a lifelong path of woodworking. As a result, my challenge over time has been, and will continue to be, to achieve the standard set by Sam and all craftspeople like him.

–Stephen A. Garanin, Waltham, Mass.

From camping to a career

I began woodworking in 1971 at summer camp. Sam Bush, a master cabinetmaker and shop teacher from the Hill School in Pennsylvania, showed me the joy of the craft over several summers. In 1977 I was in search of a college and visited Sam at the Hill School. That week he had received issue #6 of *Fine Woodworking*, which covered woodworking schools. Thanks to Sam and *Fine Woodworking*, I earned my B.F.A. in woodworking from Virginia Commonwealth University and now do the thing I do best.

–Ken Gore Jr., Phoenix, Md.

A heavenly avocation

I'd always done DIY around the home until I became a priest and no longer owned my own house. Some two years into my new job I went looking for a screwdriver only to discover all of my old tools stolen from an outdoor shed. I bought some new tools with the insurance money and suddenly realized how much I had been missing this creative side of my life. Woodwork is now an essential recreation in an occupation where it is not so easy to see the end product!

–The Rev. Nick Whitehead, Hersham, Surrey, U.K.

Better than work

My woodworking inspiration came in the form of a Norwegian carpenter named Bill Nordback. He taught me to try everything and fear nothing. "If you can imagine it, you can build it." I worked alongside his eclectic projects, including a quarter-scale 40-meter yacht and a 10-times replica of a Colt .45 for a gun-shop sign. My favorite Nordback quotation: "Would you rather do this, or would you rather work?"

–Stephen Ortado, Washington, D.C.

Advice from Sam Maloof

"The best advice that I can give you is that whatever happens, DON'T EVER GIVE UP, and you will be successful," Sam Maloof told me.

I am now in my 22nd year making my living as a self-employed custom woodworker. I have a great studio, all the equipment I ever wanted, and I have been able to do the kind of work that I want to do more often than not. Many times over those 22 years, things got pretty rough, but when they did I would think of Sam's advice: don't ever give up.

–Steve Casey, Agoura Hills, Calif.

Shop teacher's dramatic lesson

In 1970, my high-school shop teacher, Clinton Hall, taught a lesson in shop safety I will never forget. Mr. Hall had all of us gather around the bandsaw so that he could provide a hands-on demonstration of the tool. He took a short piece of pine, drew a squiggly line lengthwise down the center of the board and started the saw. He began lecturing us about how dangerous the bandsaw was, because it presented a very thin cutting profile. As he started to feed the board through the saw he continued to lecture while looking around at each of us to make sure we were paying attention. Unfortunately, Mr. Hall was not looking where *he* was cutting. He ran the sawblade straight up the middle of his thumb. He threw the board across the room, grabbed his thumb with his other hand, and went running for the high-school's central office, cussing a blue streak the whole way. All of us in the class were shocked for a moment at what we had just witnessed. Then the tension broke, and we simultaneously burst into laughter. Mr. Hall's lesson wasn't lost on me, and I have been careful around power tools ever since.

–Gregory Blake, Marietta, Ga.

A library lesson

I have a library close to my work, where I often read during lunch. It was here that I discovered *Fine Woodworking*. The woodworking legacy alive in your pages can harness the interest of a hobby woodworker and can send him on the way to becoming a master craftsman.

–Trevor Toop, Oakville, Ont., Canada

Persistence in the face of ignorance pays off

I am a self-taught woodworker and have been working in wood most of my life. My dad was not a woodworker, but he was a jack-of-all-trades, and he gave us pieces of wood to play with. Most of my work was frustrating and disastrous, but for some reason every time I tried another craft, I lost interest and always came back to working with wood.

When I subscribed to *Fine Woodworking* 25 years ago as an adult, I just looked at the pictures because I did not understand anything that the authors were writing about. Through the years, the magazine inspired me to try projects using techniques that were beyond my ability: my joints became mortise and tenon, and my furniture cases and doors became hardwood frame and panel.

Now that I am retired, I build all of my furniture. I have almost finished an 8-ft. built-in computer desk with six overhead cabinets. Two of the cabinets are reserved for my *Fine Woodworking* magazines.

–Shirley Weismann, Rolling Meadows, Ill.

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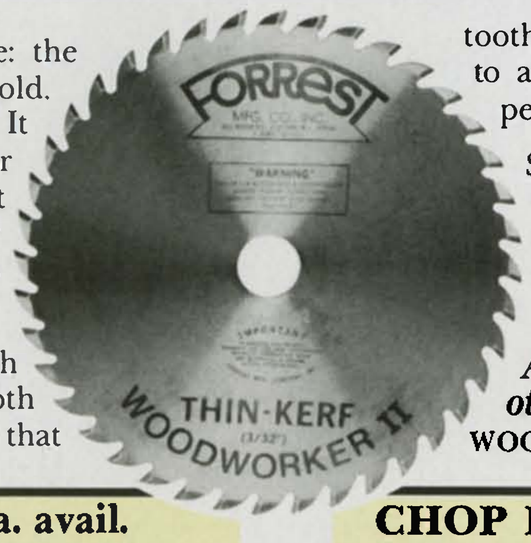

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The 10"x40T earned the Editors' Choice Award for the best performance regardless of the price. See* American Woodworker *April 1998 pp 68-69.

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14" x 40 T x 1"	~~$149~~	$134	$127
14" x 30 T x 1"	~~$139~~	$125	$118
12" x 40 T x 1"	~~$129~~	$116	$110
12" x 30 T x 1"	~~$119~~	$107	$101
➡ 10" x 40 T x 1/8" or 3/32"	~~$119~~	$107	$101
10" x 30 T x 1/8" or 3/32"	~~$99~~	$ 89	$ 84
9" x 40 T	~~$109~~	$ 98	$ 93
9" x 30 T	~~$99~~	$ 89	$ 84
*8 1/4" x 40 T x 3/32"	~~$99~~	$ 89	$ 84
8" x 40 T 3/32"	~~$99~~	$ 89	$ 84
8" x 30 T 3/32"	~~$89~~	$ 80	$ 76
7 1/4" x 30 T 3/32"	~~$89~~	$ 62	$ 59
**6" x 40 T 3/32"	~~$89~~	$ 80	$ 76
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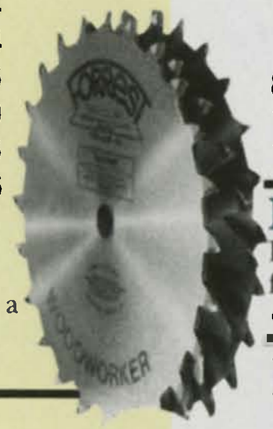

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6½" x 40 T x 5/8" Delta, Sidekick & others	~~$ 99~~	$ 89	$ 84
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8½" x 60 T x 5/8" Hitachi, DeWalt, Ryobi, Freud TR125	~~$119~~	$ 107	$ 101
9" x 80 T x 5/8" Delta & others	~~$129~~	$ 116	$ 110
10" x 80T x 5/8" Delta, Bosch, Hitachi, Makita, Ryobi, AEG & all	~~$139~~	$ 125	$ 118
12" x 80 T x 1" Delta,Hitachi, Makita, B&D, Sears & all	~~$149~~	$ 134	$ 127
14" x 100 T x 1" Makita, Ryobi	~~$189~~	$ 170	$ 161
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10" x 60 Tooth	~~$129~~	$116	$110
12" x 60 Tooth	~~$139~~	$125	$118

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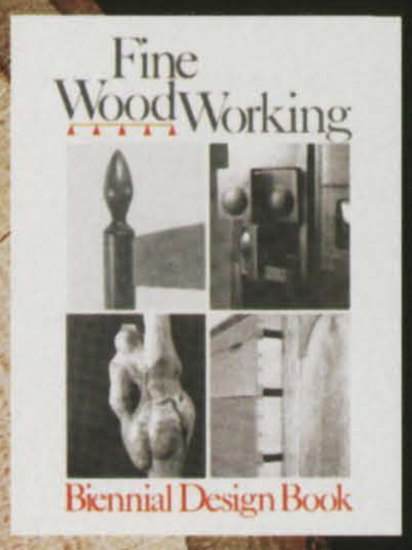

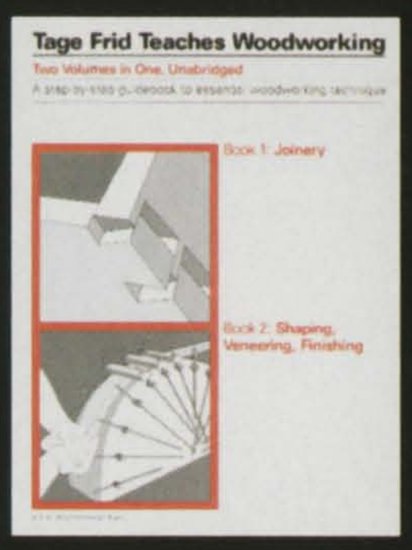

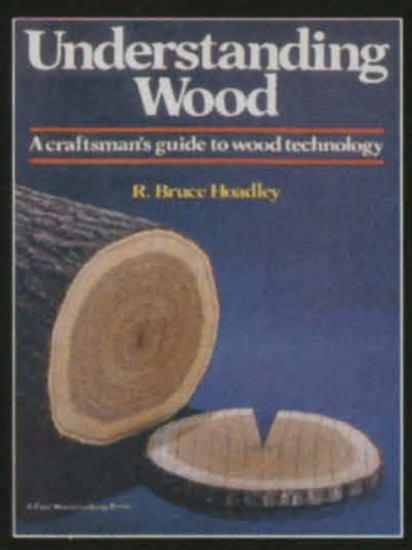

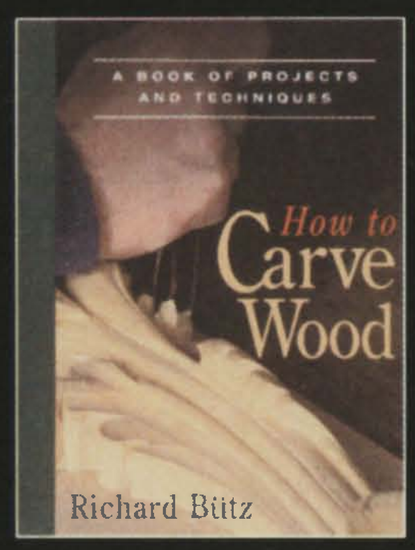

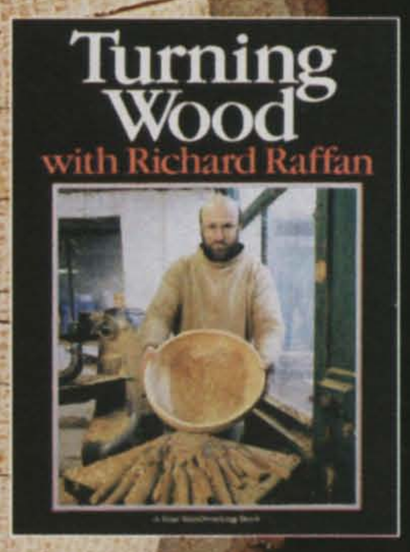

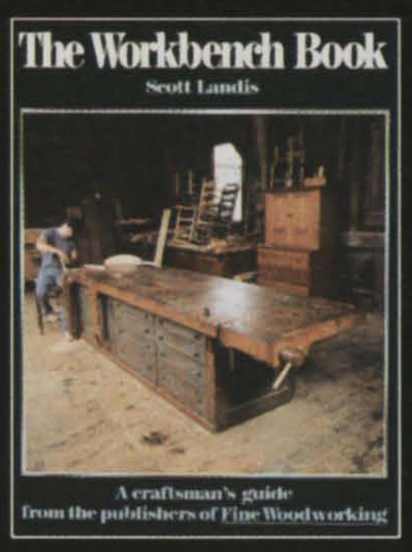

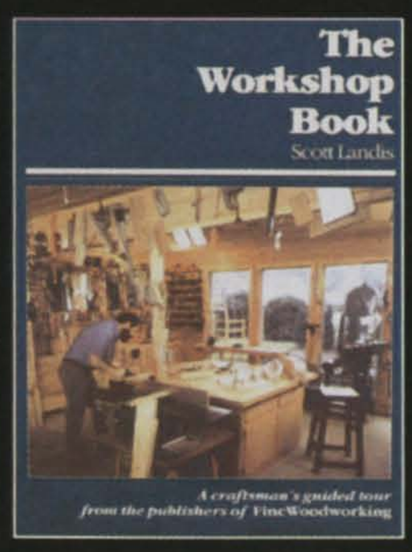

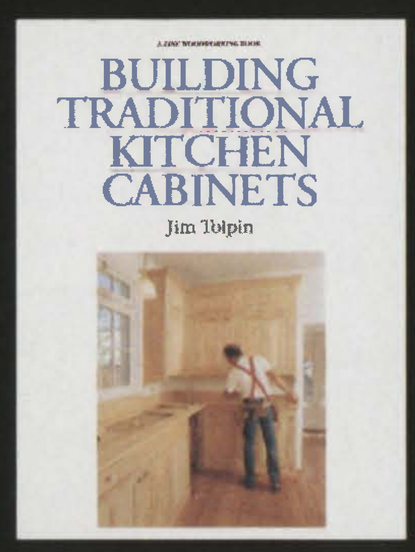

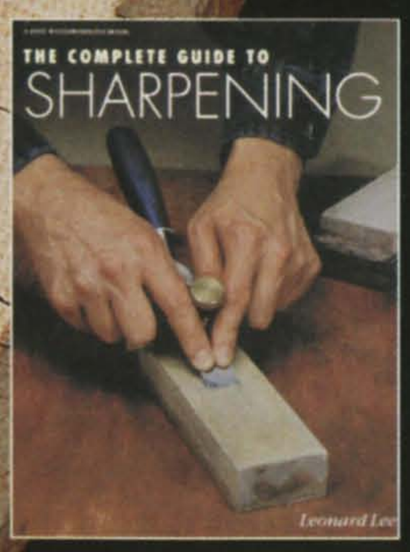

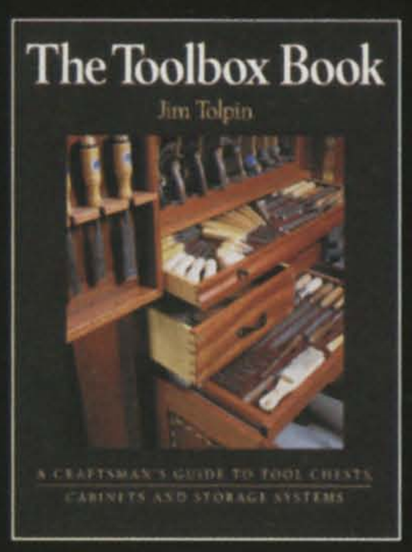

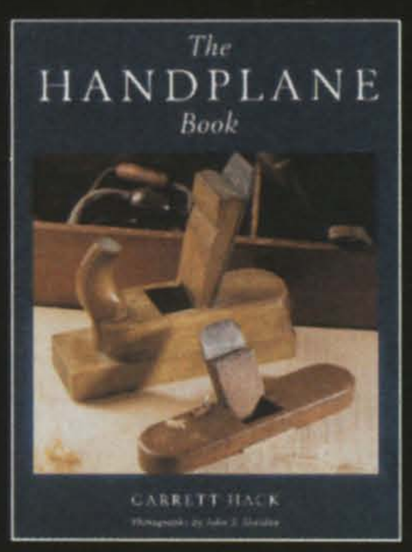

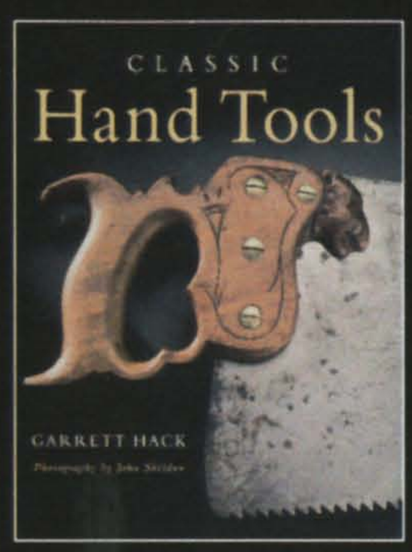

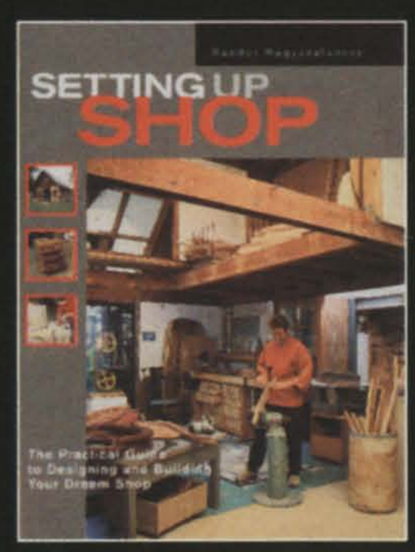

Rules of Thumb

BY MIKE DUNBAR

Going Pro: a Common Dream but a Difficult Reality

Working wood is so pleasurable and satisfying that it is a rare woodworker who does not dream of quitting the day job and hanging a sign in front of the shop. I know firsthand why this dream is so attractive. I have been a self-employed woodworker for 30 years, and short of being independently wealthy, I would never want to be anything else.

Seven years ago, the author and his wife sold everything and emptied their savings to expand their teaching business. *Sue Dunbar insists that the facility always make a first-class impression.*

My wife, Sue, and I are constantly involved in helping people make this dream a reality. While most of the more than 400 people who study with us each year are amateurs, about 20% are already deriving at least some income from their woodworking. Another 10% are in the planning stages of turning pro.

We are well-qualified career consultants. For the 23 years of my career, I was a self-employed Windsor chair maker. I made a good living and was able to sell everything I made. And since 1994, Sue and I have run a thriving woodworking school. Prior to that Sue worked in public relations/marketing and political consulting. She also had her own political talk show on television. She left that work to run our new business (while I taught) and to raise our son. Besides making our school grow like a mushroom, she still conducts seminars for woodworkers who want help taking the big step or who are struggling as pros. Sue and I list eight big steps you have to make to go pro successfully. You can get the nuts and bolts of setting up a business from your lawyer, accountant and banker. I'm talking about the stuff they won't tell you. And I know these methods work because they built our business.

How to succeed, in eight not-so-easy steps

1. Prepare yourself

I won't sugarcoat it. Making a living working wood is tough, and most people fail or live hand-to-mouth. To succeed and earn a decent income, you must be willing to pay the price of success and have the attitude that nothing is going to stop you. Ask yourself the following questions, and make sure you give honest answers: Are you willing to work long hours and weekends? Are you willing to take financial risks and make lots of sacrifices? If any other considerations—vacations, trips, cars, security, leisure, hobbies, sports—are more important than your new business, keep your day job and save yourself a lot of grief. Otherwise, you are setting yourself up for a disaster to your self-esteem, your financial well-being and perhaps even your marriage.

For the first four years we were in the teaching business, we lost money. Because everything we owned was tied up in the business, we walked a financial tightrope. With our savings gone, one or two bad months would have sunk us. Today, we still work long hours. Most nights Sue and I are in the office until 6:30—long after our students and staff have gone home. It is a rare weekend that we do not work at least half a day. The business is always on our minds and is our most common topic of conversation.

We recently had a student from a rural Midwestern state express his desire to go home and make chairs for sale. He wondered aloud who would buy chairs in the $400 to $700 price range in the hardscrabble area where he lived. We advised that he find a way to sell his chairs in a more wealthy area. "You mean, like a gallery?"

"Yes."

"I don't want to get wrapped up in all those hassles," he said.

"Then move to a place where the inhabitants have more money."

"I don't want to leave where I am."

"Then you really don't want to make and sell chairs," we concluded for him.

2. Prepare your family

Be sure that your spouse and older children share your dream. While it is possible to succeed without your spouse's support, it is a lot harder. We know couples who have divorced over this issue. Your family has to be willing to sacrifice as well. Life is a lot more stressful if you are being pressured to take a cruise or vacation at a time when money is tight or a big job has to get done. Working for yourself takes lots of stamina and self-confidence. There will be days when

Photos, except where noted: Asa Christiana

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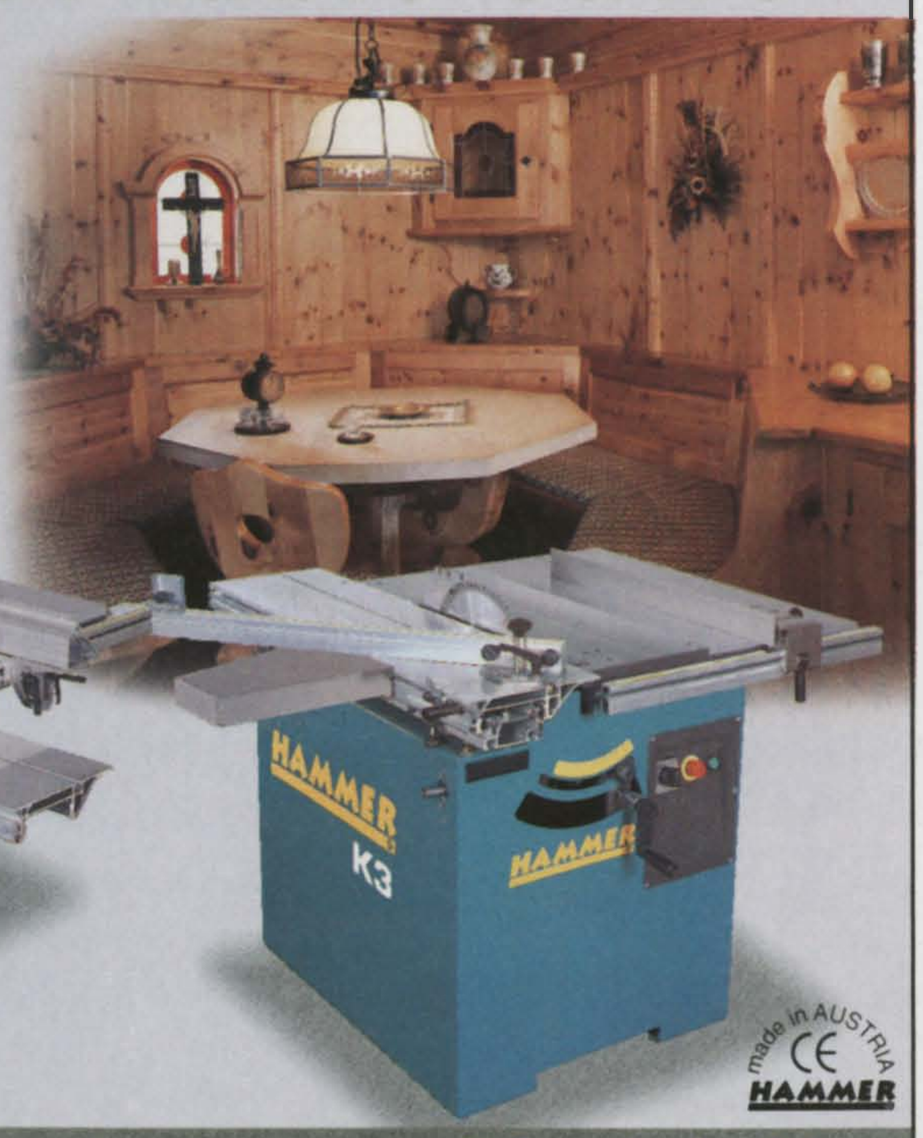

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you want to give up. At these low moments you need your life's partner cheering you on, not saying, "I told you so."

Together, examine your financial situation. Is your spouse willing and able to support the family during the lean first years? Do you have enough savings, and are you willing to risk that money? What will you do about health insurance, tuition payments, day care and other expenses?

Marc Blanchette of Hampden, Maine, is one of Sue's success stories. After working from his house he realized that he needed to be in a location with more traffic by his door. He held a powwow with his wife and three teenage sons and reached this compromise. They agreed to mortgage the house and to buy a 12-acre business property on Route 1, at the doorstep to Bar Harbor and Acadia National Park, sites visited by some 5 million people a year. When the kids graduate, Marc and his wife plan to build their new home next to the business. Meanwhile, Marc will commute.

3. Prepare your workspace

You probably already have a workspace. But as a pro, you also need an area where you can show your products. And because working wood is only part of the business, you also need an office. The three do not need to be in the same place, though it is handy to have them so. For years, my office was a spare bedroom, and we used the kitchen in our restored 18th-century house as a showroom.

If your shop is in your house or garage, make sure in advance you are not violating any zoning ordinances. The city or town can cause more grief than you can imagine.

When you go pro your workshop becomes your place of business and needs to be treated that way. Most clients want to meet you and see where and how their purchase was made. Don't let your shop's appearance blow a sale. Spend some time thinking about the presentation your space makes.

4. Appear professional

Before customers start to call, think about preparing yourself to sound professional and credible. Practice answering the phone in a professional and courteous way. Teach your family to do the same. When you return a call, don't have kids fighting in the background, the television playing or the dog barking.

An answering machine or voice mail is essential. You simply are not credible if people cannot reach you. Make sure your machine's message is professional, not funny or quirky.

When customers arrive, greet them professionally. It is usually best to schedule visits when the kids are in school. Confine overly friendly or menacing dogs.

Everyone thinks that "self-employeds" do not really work, and your shop can quickly become a hangout. Someone who kills time by wasting yours is stealing from you. This has been a major problem for me for 30 years. Sue and I have learned to subtly but firmly discourage this.

The well-equipped teaching area is kept clean and organized. *Every tool and template has its place at the Dunbars' school.*

5. Develop an identity for you and your business

The world is full of good woodworkers who cannot sell their products. These people, struggling until the inevitable end, give rise to the old joke: What does a woodworker do when he wins the lottery? Answer: He keeps working wood until the money is all gone.

You will not make a living working wood until you learn to sell—until people give you checks for your work and enough of them to make ends meet. Remember, your commitment in going pro is to make a living, not be a starving artist. Sue advises our students to devote a bare minimum of one day a

From student to successful pro

Former Dunbar student Barry Thompson makes Windsor chairs and good first impressions at his shop and showroom in Virgilina, Va.

Photos, this page (bottom): Spectrum Photography, Shannon Turner

week to marketing. Marketing is a skill that needs to be developed the same way you developed your woodworking skills: through learning and practice.

Take a lesson from politicians—There are lots of woodworkers out there who are as good as you are. So the first thing you must sell is yourself, by developing an image in the customer's mind about you and your work. Sue explains that this is very similar to a political campaign in that voting and buying are both acts of confidence. For a free education, use the next election cycle as a marketing primer.

A politician begins by finding out what the public wants, frequently through polling. Next, he seizes the initiative by defining both himself and his opponent. He controls his image and shapes it in the voters' minds by focusing the voters on the issues that cast him in the best-possible light. He emphasizes his virtues and his opponent's shortcomings. He sprinkles his message with lots of value-loaded words.

Do the same. Begin by knowing your customer. Sue tells our students who go pro that the people who want to buy Windsors fall into two categories. The first is antique people. Old Windsors are so expensive (the record price for a single chair is more than $50,000) that only the wealthy can afford them. A $600 handmade copy is a bargain in an antique collector's mind. Another group of potential customers is people who like quality. They buy paintings rather than prints, a Mercedes rather than a Ford.

Determine what sets your work apart. The opponent is factory-made chairs. For a chair maker, the problem is convincing buyers that they should spend $600 for a chair when chairs are available in many stores at $79.95. Sue tells students to focus on quality—to point out the joints and engineering that have caused so many 200-year-old Windsors to remain as tight as the day they were made, while factory chairs are at the end of the driveway in a decade. She tells our students to boast that their chairs will be passed on as heirlooms, and to lace their spiel with value-loaded words like timeless, handmade, skill and craftsmanship.

The importance of promotional materials—Even though they are expensive, have good promotional materials. This is so important that Sue strongly advises getting professional advice. Your materials can reflect your personality and be tailored to your line of work. If you do very expensive woodwork for a few select customers, have an expensive portfolio. Otherwise, consider a three- or four-fold brochure. We have a friend who makes Adirondack chairs and has good luck with a postcard.

The Dunbars' showroom and office. *Visitors can enter the showroom and take in the antique Windsor chairs and recent reproductions, while the office down a short hallway remains private.*

Keep some business cards in your wallet and never be without them. Pass them out freely. Have stationery and envelopes printed. Computers are so inexpensive that you should have one if for no other purpose than answering mail. Don't communicate on lined paper crammed into a small, personal-sized envelope.

6. Work the media

You may need to advertise, but it is expensive. And because few publications directly target your potential customers, it is frequently inefficient. Furthermore, most people have a healthy suspicion of advertising. The media, on the other hand, usually are seen as objective third parties, which make them very effective. And media coverage is free.

A good politician and a woodworker going pro need to go to editors and reporters personally. Target the outlets that are read, watched or listened to by your potential customers. This often means the local newspapers and radio and TV stations—above all,

Another success story

Although Windsor chair maker Marc Blanchette is building a new shop/showroom in a tourist area, he will continue to use his Hampden, Maine, home to introduce potential clients to his work. This means keeping the house and grounds in showcase condition. And the former Dunbar student will keep his new workshop as neat and organized as his current one.

Photos, this page (bottom): Marc Blanchette

cable. However, for high-end work, it could be architectural and decorator magazines or TV programs with a similar focus. Clip or record the reports about other craftspeople for future reference.

Do not be afraid to approach the media. Remember, editors and reporters have to turn out a newspaper, magazine or show on a regular basis and are always looking for material. It is a lot easier to write about someone who walks through the door than to go out and find suitable people. Do not be afraid to propose yourself as a story. That is how Sue got our business on the front page of *The Wall Street Journal*; in *The New York Times* and *Country Living*; and on *New Yankee Workshop*, *Martha Stewart Living* and *The Woodwright's Shop*.

The press release is the easiest way to propose yourself as a story. If you do anything interesting—open your business, get a major contract—or are recognized in any way, send a press release to your targeted media. Including a photo always helps.

If you see a story that relates to your work, call an editor or a reporter. You may be included in a follow-up story. Also, you become a source. The next time the reporter is writing about something similar, you may be called for a quote or for assistance. Being helpful in these ways frequently leads to articles about you.

When an article finally appears, clip it and send copies to all your other targeted outlets. Furniture maker Garry Knox Bennett once told me, "The more media you get, the more media you get."

Get to know a publication's audience and what the audience needs to hear about you and your work. A Windsor chair maker being interviewed by an antique publication should talk about how accurately he or she copies the originals. When talking to a reporter from a high-end decorator magazine, focus on quality.

7. Get out of the shop

We remind our students that a good politician gets out and presses the flesh. He speaks to groups. Do the same. These are some of Sue's suggestions: Join your local woodworking club and do a presentation for them. Contact service groups like the Rotary. Speak to your region's historical societies. Every time you speak you meet potential customers, tap into a network, polish your presentation and create a reason for yet another press release.

High-end craft shows sell booth space and are happy to take your money. However, many of them offer live presentations and demonstrations and will trade booth space for this service. People are drawn to activity. You will get a lot more attention from the public if you are making a table than if you are standing next to a finished one. Be sure to issue a press release.

A politician knows he can get more done if he has good relations with his colleagues. Do the same. We have a network of past students who have gone pro and all make chairs from our patterns. Working together, we can quickly fill a large order with a couple of phone calls. Even though we work by hand and have limited production, pooling our efforts puts all of us in a position to go after large jobs. Team up formally or informally with other woodworkers. Chairs go around tables, so we have a network of guys who make tables.

8. Clinch the sale

Before you actually have a customer, practice your sales pitch until it is flawless. Enlist someone you trust to act as a customer and to critique you, just as a politician does with trusted advisers before a debate or public appearance.

If there is something about your work that is unique or interesting, prepare a demonstration for your customers. For example, to demonstrate the effectiveness of locking tapers as a leg joint, we clamp a piece of 2-in. pine to the bench. We insert a leg tenon into a reamed hole and tap the leg with a hammer. Then we lift the 300-lb. bench by pulling the leg straight up.

Discuss why your product is best. Mention competitors or alternatives, but do so cautiously. When made in person, such comparisons can seem more harsh than when made in print and can hurt the customer's impression of you.

Your media exposure has presented you as an interesting person. If you are laconic or expressionless, work on projecting a more bubbly personality. Sue had to train one student to not glower when talking to other people. He did not even know he was doing it. I am painfully shy and would rather have teeth extracted than meet new people. Sue worked a long time to train me to appear outgoing even though my guts are churning. Sue suggests videotape so students can see themselves as others see them. Ask whether you would buy from the person you are watching.

And if all else fails, consider this tip from Barry Thompson, of Virgilina, Va. Barry is the most successful student we have ever had go pro. One of his most effective techniques is to have a customer take a chair home and use it.

They fall in love with it and buy it every time.

Good promotional materials speak volumes

Former Dunbar student Randall Henson, of Colchester, Vt., uses promotional correspondence such as this postcard to sell himself and his work. Serious clients get a more detailed mailing that includes photos of Henson's chair types, a milk-paint color chart and a personalized letter that describes construction techniques, prices and shipping costs.

Photos, this page: Finest Image Photography, Kevin Macy

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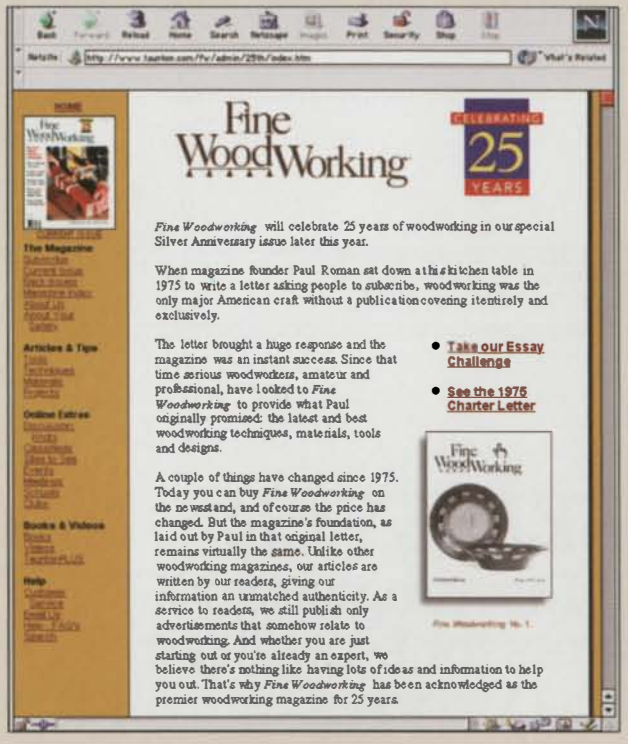

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Two-and-a-half decades of Q&A

The best still hold true

No matter where woodworkers learn their craft, they eventually turn to other woodworkers for answers to questions that arise. Since its first issues, *Fine Woodworking* has fielded more than a thousand of these queries. It is difficult to pick the "best" Q&As. Some standouts are distinguished by their value or timelessness, others by brevity or wit. Here are some classics.

Restoring a family heirloom

FWW #13 My son's family is using a black walnut trestle table that is now in its fifth generation in the family. The joints are reasonably tight, and the wood is sound. A complete restoration job is possible but from our standpoint might detract as much as it would add. Brightening up the wood itself will be enough. After many years of farm use and being scoured with lye soap, and more years overhead in the woodshed gathering dust, it is smooth and clean but faded. I'm thinking of an oil treatment, possibly with added stain. Possibly just a good furniture polish. But in a case like this might the resins set up and preclude further recovery of the natural color?

—Henry Howard, Cambridge, Minn.

George Frank replies: Your table brings a story to memory: I had an old aunt who, although she was close to 90, was bright and alert. Her hair was white, her wrinkled face clean of cosmetics, and her whole person radiated goodness. When she died, I went to the funeral parlor for a last farewell and had a shock. Was this my aunt in the casket? The woman there had bright red cheeks, rouge on her lips, penciled eyebrows, the works. She looked like the bad woman in a Hollywood film, not like the aunt I loved.

Now back to your table. Please don't use any makeup on it. Wash it down once more with lye soap, scrub it hard and scrub it clean. Rinse it clear with water and leave it alone.

If you really feel it needs protection, get some beeswax, cut shavings off it with a handplane, fill a jar with the shavings, barely cover them with high-octane gasoline and let the mixture soak a couple of days, shaking the jar from time to time. The wax will become semiliquid. With this wax you can coat your table, but be sure to take off all excess before it dries. When dry, bring up the shine with a wool rag and a scrubbing brush. Don't use any coloring. The beauty of your table is in the fact that it is old, worn and faded. Keep it that way.

[The late George Frank was a consulting editor to *Fine Woodworking* and author of *Adventures in Wood Finishing* (The Taunton Press, 1981).]

Burned wood and glue joints

FWW #12 Is it general knowledge, or is there any scientific evidence that a saw or sanding burn will weaken a glue joint?

—Edmund H. Anthon, Akron, Ohio

R. Bruce Hoadley replies: Definitely. Charring amounts to chemical and mechanical damage to the structure of the wood, which inhibits adhesion and contaminates the glueline. For the best adhesion, you must have a smooth, clean and preferably newly machined surface. [R. Bruce Hoadley is a contributing editor and professor of wood science at the University of Massachusetts at Amherst.]

Burned wood makes a poor glue joint. *Remove the charred surface before glue-up.*

Imperfections of handplaning ... handmade is handmade

FWW #60 I recently restored a Stanley No. 4 metal smoothing plane. I'm impressed with the smooth cut but troubled by the surface ridges created between adjacent passes of the plane. The ridges can be felt along the entire board but are slightly greater at the ends. I've been able to remove the ridges with a couple of passes of a scraper. The cutter has no nicks, and the corners are slightly rounded. Are these ridges common, or am I doing something wrong?

—Mark Zeglen, Heath, Ohio

Norm Vandal replies: A handplaned surface is just that, and it includes slight ridges at the intersections of adjacent passes. These ridges should be tactile, felt rather than seen. Obviously, the finer the set, the amount the iron protrudes from the sole, the smaller these ridges will be. Rounding the corners of the iron, as you have done, makes the ridges less abrupt, but it is impossible to remove these ridges completely. The solution is to keep them as imperceptible as possible.

After you have surfaced the entire board, try going over it again with the plane iron set extremely fine, taking as light a shaving as possible. This setting is possible only with a well-tuned plane—the bottom must be flat, the iron honed and set correctly to the base. The fact that the ridges are more pronounced at the ends of the board is a factor of the length of the plane sole as compared with the length of the board, combined with how you're holding the plane. Try applying pressure on the toe of the plane as you begin the cut and on the heel as you finish. Or get yourself a longer No. 7 Stanley jointer, true it up and use it for surfacing long boards. You'll be surprised how well it will work.

Last, learn to rejoice in the subtle imperfections and sensual textures of the handplaned surface. Think in terms of

Photo, this page: Matthew Teague

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handwoven vs. machine-loomed textiles, a beautiful tapestry as compared to double-knit polyester.
[Norm Vandal makes period furniture and architectural furnishings in Roxbury, Vt.]

Orienting growth rings in a tabletop

***FWW #54** I'd like to know which way to orient the growth rings when I glue up a tabletop. Should the rings all point the same way, or should I alternate them? I've seen tables made both ways.*
—Ed Stolfa, Roselle, Ill.

R. Bruce Hoadley replies: There are two schools of thought regarding growth-ring orientation. The drawings below show what type of distortion results from each method. The rings-in-the-same-direction school holds that alternating the boards makes the cupping more obvious and that the resulting wavy top is hard to fasten down. Orienting the rings in the same direction forces the board into an arch. This method has merit if the top is tightly held down.

On the other hand, alternating the boards has merits, too. Alternating the cupping helps maintain an appearance of overall flatness in the finished top and, perhaps even more important, less stress will develop at the gluelines.

More important than growth-ring orientation, make sure that the moisture content is uniform from board to board and that the wood has reached an equilibrium moisture content with its environment before you glue up the top.

Paying the price of improperly dried wood

***FWW #11** I made a modified Parsons-style dining-room table of supposedly dry oak. I sealed the underside with wood sealer and used liquid grain filler, then finished with many coats of Watco satin oil. After a year the oak is developing longitudinal cracks. What type of treatment and finish can I use to keep the wood from developing cracks?*
—Robert Schneider, De Ridder, La.

George Frank replies: There is no finish that can seal moisture permanently in the wood. You are paying the penalty for not using properly dried wood. I am sorry, but I cannot help you.

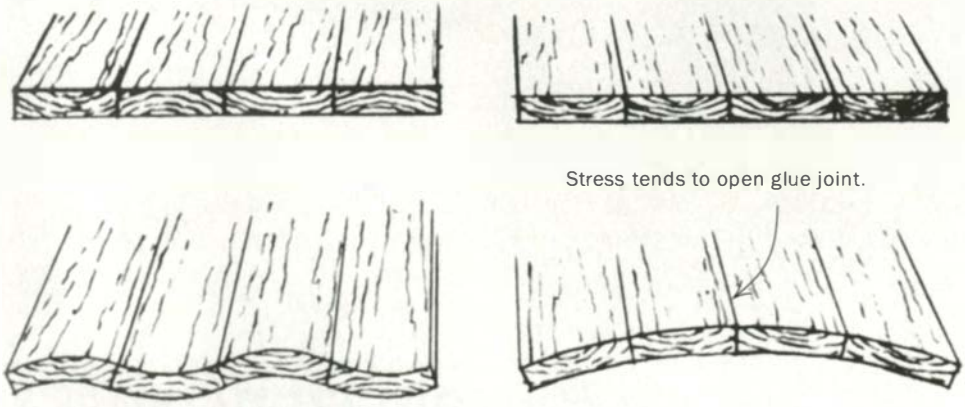
Straightening cupped table leaves

***FWW #6** I have a 60-year-old walnut extension table with six solid wood leaves. All the pieces are cupped in an upward arc. Can anyone suggest how to straighten out old lumber?*
—Warren Lawson, Rochelle, Ill.

FWW #7 Answer: A dozen readers say the leaves cupped because they were finished only on the top. Thus moisture could enter and leave the wood only through the bottom. You have to equalize the distribution of moisture in the board and finish both sides. One way is to strip the finish, lay the boards cup-side down on a sunny patch of grass and keep an eye on them until they absorb enough moisture to straighten out. Then sticker them flat so they will dry evenly, and finish both sides.

GROWTH-RING ORIENTATION

By alternating the growth rings of adjoining boards (left), joints are less likely to open due to wood movement.



Shop wiring: 110 vs. 220 volts

***FWW #102** I'm planning to build a shop, and I don't know whether to install 220-volt electricity or if 110-volt would be sufficient. I've noticed that large, heavy-duty machinery is always 220 volts and intermediate machines are usually 110/220 volts. I read that a 110/220-volt motor running on 220 volts uses half the electricity as the same motor running on 110 volts. True or false? What exactly is the advantage in using 220 volts?*
—Al Coppola, Mulvane, Kan.

Ed Cowern replies: First, let's dispel the myth about operating motors on various voltages: An electric motor operating on 110/115 volts will use the same amount of power (to do the same amount of work) as it does on 220/230 volts. (A few definitions will help here: A watt is a measure of electrical power; a volt denotes potential differences that cause the current to flow; and an ampere is a measure of the amount of current flowing through a wire.)

The myth that the motor will use less on the higher voltage comes from the fact that it uses half as many amperes (amps) on the higher voltage. But what you buy from your utility is watts, not amps. The number of watts equals the number of amps times the number of volts. Thus, when the amps are half but the volts are double, the watts will be the same.

In general, motors up through 1 hp can be operated on 115 volts. Operating on 115 volts gives greater portability because this voltage is commonly available in any shop or on any job site. Machines with 2 hp and larger motors will operate better on 230 volts. A motor with 1½ hp is a borderline case and can operate successfully at either 115 volts or 230 volts.

The advantage of using 230 volts for heavier machinery is that you can run slightly smaller wires to the machines

because the full load amps will be one-half of the 115-volt value. Because of the lower amp load, the line voltage drop at the machine under heavy cutting conditions will be less. With more stable voltage, the motor will develop higher torque than it would under sagging or low-voltage conditions, which can occur if the motor is operated at the lower voltage.

[Ed Cowern is an electrical engineer in Wallingford, Conn., and president of EMS, distributor of Baldor electric motors.]

Hollow-chisel tooling: You get what you pay for

***FWW #120** I enjoyed John West's article on hollow-chisel mortisers (FWW #116, pp. 70-74). I had wanted one for years, and about a month ago, I finally bought one. I found, however, that the holes it chopped had small indentations on two sides, as shown in the top drawing at right.*

The mortises ended up looking something like the bottom drawing. The sketch is somewhat exaggerated but gives the general idea: The mortise was ragged and had to be cleaned up by hand with a chisel.

The technical adviser of the mail-order company where I bought the tool said this is just the nature of hollow-chisel mortisers and that I would have to live with it. Because I had to finish the mortises by hand, I figured I might as well do the whole thing by hand. So I sent the machine back. Is the ragged edge a fact of life with all mortisers, or would I have had better success with a different brand?

—Phil DiLavore, Terre Haute, Ind.

Drawings above: Vince Babak

John West replies: It seems the problem has more to do with the tooling than with the machine. A mortiser's operation is pretty simple—down and up.

It's not unusual for the sidewalls of a mortise made with a hollow-chisel mortiser to be slightly ragged. This is a function of how the tool works: It drills a round hole and simultaneously scrapes the corners clean. But there should be no large grooves down the sidewalls of the mortise, and the face of the wood where chisel and bit enter should be crisp and have square edges.

It sounds like the bit is oscillating wildly inside the chisel. This can occur when a bit is badly worn (not likely because yours was new) or poorly matched to the chisel. It also can happen when the bit diameter at the spur is larger than the

width of the chisel. Generally speaking, these problems are restricted to cheaper bits and chisels.

The chisel width and spur diameter should be the same. I have never measured much more than a 1/100-in. gap between the two on the tooling I use. But there's a cost for this tolerance. These chisel and bit combinations run $70 to $75 per set. I'm sure you've noticed differences in cut quality with different grades of sawblades and router bits. Hollow-chisel bit sets are the same. You generally get what you pay for.
[John West owns Cope and Mould Millwork Co. in Danbury, Conn.]

Solid advice on dewaxed shellac

FWW #127 I read with interest Chris Minick's reply concerning finishing and gluing problems caused by antioxidants in certain tropical hardwoods (FWW #120, p. 26). Members of my woodworkers' club have also experienced some of those problems. Chris' suggestion for overcoming the problem left us with a question. What is dewaxed shellac? —George Finkel, Cranbury, N.J.

Jeff Jewitt replies: Shellac in its raw, unrefined form contains from 4% to 7% wax. This wax detracts from the durability of the dried film, particularly its resistance to heat and moisture. It can also cause adhesion problems with finishes applied over it—especially oil- and water-based urethanes. The wax is present in seedlac, buttonlac and #1 orange (the premixed stuff sold in hardware stores).

Wax is removed from the shellac flakes by dissolving them in alcohol and then filtering the solution. When the remaining solution dries, the result is shellac that is sold as dewaxed or wax-free. Most woodworking suppliers sell it as dewaxed. Super blond is a dewaxed, amber-colored shellac, but other dewaxed shellacs are available, ranging from a dark, garnet color to a bleached white. Dewaxed shellacs have a shorter shelf life than raw shellac, both dry and mixed with alcohol. They're also more prone to clumping or caking together, which occurs in hot, humid weather.

***Getting rid of the wax.** After the shellac flakes are dissolved, let the solution sit for a couple of days. The wax will settle into a cloudy layer at the bottom of the jar.*

An alternative to purchasing dewaxed flakes is to dissolve regular, waxed shellac flakes in alcohol, then let the solution sit for a few days. With most shellacs, the wax will settle to the bottom of the jar, and you can decant the clear solution at the top into another jar.

In case you're wondering what happens to all that shellac wax that's left after the dewaxing process, it's what you've been putting on your shoes for years.
[Jeff Jewitt restores furniture, sells finishing supplies and writes frequently for *Fine Woodworking*.]

WOODWORKER'S MART

See ad index on page **160** for reader service number.

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Finish Line

BY MICHAEL DRESDNER

A quarter century of coatings

If there is one sea change in the finishing industry that we can point to with pride, it is the sharing of information about this formerly arcane craft. Sure, there have been some technological advances in finishing, such as the advent of more efficient spray guns, water-based coatings and specialty sandpaper. But these advances pale in comparison to how much woodworkers have benefited from the information age.

With *Fine Woodworking* magazine leading the way, platoons of guilds, other publications and Internet sites have opened the doors to the most profound sharing of knowledge our humble art has ever known. It is the one variable, in my opinion, that has most changed the way we have approached the subject of wood finishing over the past quarter of a century, and how we are likely to regard it in the future.

"I don't tell my secrets to others"

The world of wood finishing used to be steeped in trade secrets. Professional finishers kept little black books filled with recipes and formulas that were more alchemy than chemistry. Learning the tricks meant you had to apprentice to an old-timer. At best, you might eventually inherit his years of learning, seasoned heavily with his personal bias and some inevitable misinformation.

It is not hard to understand that culture of mystery. You can figure out how a wood joint was made by taking it apart, but finishes are not so transparent, if you'll pardon the pun. A finisher felt that his knowledge was his job security. Young neophytes with prying eyes and questions might soon leave him unemployed. Consequently, secret formulas were abundant.

On an impulse I once visited a one-man instrument shop in Philadelphia and rang the doorbell, hoping to learn a bit. The owner, wearing an apron, opened the door and said quite abruptly, "Curious or serious?" I hardly knew what to answer, for certainly I was serious in my curiosity, but I assumed that he meant, "Are you looking to buy something?" Unsure what to say, I stammered, "Curious, I guess, but ..." I couldn't even finish the sentence before he snapped, "I have no time for curiosity," and slammed the door in my face. I was crushed but vowed never to do that to others who came to me looking for advice.

The information age arrives

Many of us remember what we felt in 1975 when *Fine Woodworking*, the first magazine devoted to a serious level of the craft, came on board loaded with promise. I eagerly devoured every issue, delighted that there was an end to the "dark ages" in sight. Today there are more than a dozen woodworking magazines and newspapers, hundreds of guilds, woodworking clubs and web sites that have newsgroups and chat rooms devoted to sharing a wealth of information. Woodworkers can go on-line and get answers to finishing problems within 24 hours or less. You can often solve problems that show up in a coat of finish even before it dries.

THE LION'S SHARE OF CHANGES IN FINISHING MATERIALS HAS BEEN DRIVEN NOT BY GROUNDBREAKING INVENTIONS ... BUT BY THE ENVIRONMENTAL PROTECTION AGENCY.

These added sources have also meant access to more and better finishing materials. A host of specialty mail-order catalogs, on-line buying sites and dedicated woodworkers' stores have sprung up, advertising themselves in these emerging media outlets. These days we can buy materials, usually in small quantities, that once were sold only to commercial finishing shops by industrial suppliers. In a typical woodworking catalog or store you can get several types of dyes for stain, pigments for stains and glazes, shellac in flake form, burn-in sticks and knives for repair work, touch-up powders, and a complete line of oil-based, solvent-based and water-based finishes for brushing, wiping or spraying. And, of course, they also sell the brushes, rags and spray guns to apply them.

New materials, new alternatives

Along with greater access to materials has come a range of new products. Those looking for more durability can now choose from among many one- and two-part conversion varnishes and catalyzed lacquers. These finishes go on like lacquer and dry to a film that is tougher than polyurethane. For safety's sake, we can opt for nonflammable water-based finishes. And to level them all, there

Finish Line (continued)

are quite a few new sandpaper alternatives. Curiously, though, the lion's share of changes in finishing materials and equipment has been driven not by groundbreaking inventions within the industry but by the Environmental Protection Agency (EPA). The EPA's push to reduce pollution-causing volatile organic compounds (VOCs) triggered the move toward more efficient spray guns and water-based coatings.

HVLP (high volume, low pressure)—Whatever we spray, the EPA reasoned, we might as well spray it efficiently. Then, at least, we won't be adding to the problem of air quality merely because of waste. When the EPA looked at how normal high-pressure spray guns worked, the agency found a typical transfer efficiency of 25%. In other words, only 25% of what we put into the spray gun ends up on our furniture. The other 75% lands on the surrounding floor and walls or heads out through our exhaust fans.

HVLP spray systems provided a major improvement to those levels of waste—a kinder, gentler alternative. High-pressure guns emit spray with the force of a garden-hose nozzle, but HVLP guns create a gentle mist that lands on the wood instead of slamming into it.

Today you can find both conversion HVLP guns, which run on air supplied by a compressor, and self-contained rigs that combine a gun with a portable air turbine. For a bit more, you can get air-assisted airless sprayers, which move a lot of finish with very little overspray. All of these alternatives save money by cutting down on wasted finishing materials and by reducing the time spent cleaning up overspray.

Water-based coatings—The EPA fueled the development of water-based coatings to encourage large shops to reduce their VOC output, but hobbyists and small shops adopted these finishes for entirely different reasons. They offer a fast-drying, nonflammable, colorless, low-odor alternative to traditional solvent-based coatings. During application, water-based finishes handle differently than lacquer and varnish, and they form a clear film, not an amber-colored one. For many woodworkers, the added safety and colorless option make it worth the effort to learn the new application methods required to master these finishes.

Over the past 15 years, the market has burst forth with a variety of interior and exterior water-based lacquers, varnishes and polyurethanes. Some are formulated for brushing, some for spraying, but you can apply most of them either way. Ironically, some of the newer formulations have a bit of amber color deliberately added to mimic the look of the traditional lacquers and varnishes they are attempting to replace.

Sandpaper—Sanding wood was never much trouble, but when it came to smoothing finishes, the paper tended to gum up. To ease that problem, abrasive manufacturers introduced stearated sandpaper. The abrasive minerals on stearated papers are interlaced with a soft, soapy, white powder that lubricates while you sand. With less friction, the finish doesn't gum up and stick to the sandpaper in small chunks.

When water-based finishes hit the scene, however, some finishers discovered a new problem when sanding between coats with stearated papers. The paper would leave a small amount of stearates on the surface after sanding, causing craters and pockmarks in the next coat. Abrasive manufacturers responded with powder-free sandpaper that lubricates and resists clumping of the finish but doesn't leave any residue. They've even developed special papers specifically for sanding latex paints and other water-based finishes.

Moving forward into the past

So what's to come in the next 25 years? There is no substitute for holding a printed magazine in your hands, and I hope the medium will long endure. But the Internet will undoubtedly continue to grow. Along with the existing finishing chats and message boards, you'll see more web sites devoted to selling coatings and dispensing information. The latest incarnation is the on-line woodworking magazine, and it is likely to be the first of many.

Some web sites to visit

Listed here are some of the best web sites I've found for finishing information. If you post a question on any of these sites, the replies you get may vary, and you may get more "mis" than information. Sometimes you have to make a judgment call on whom to trust.

Fine Woodworking	**www.finewoodworking.com**
Homestead Finishing	**www.homesteadfinishing.com**
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