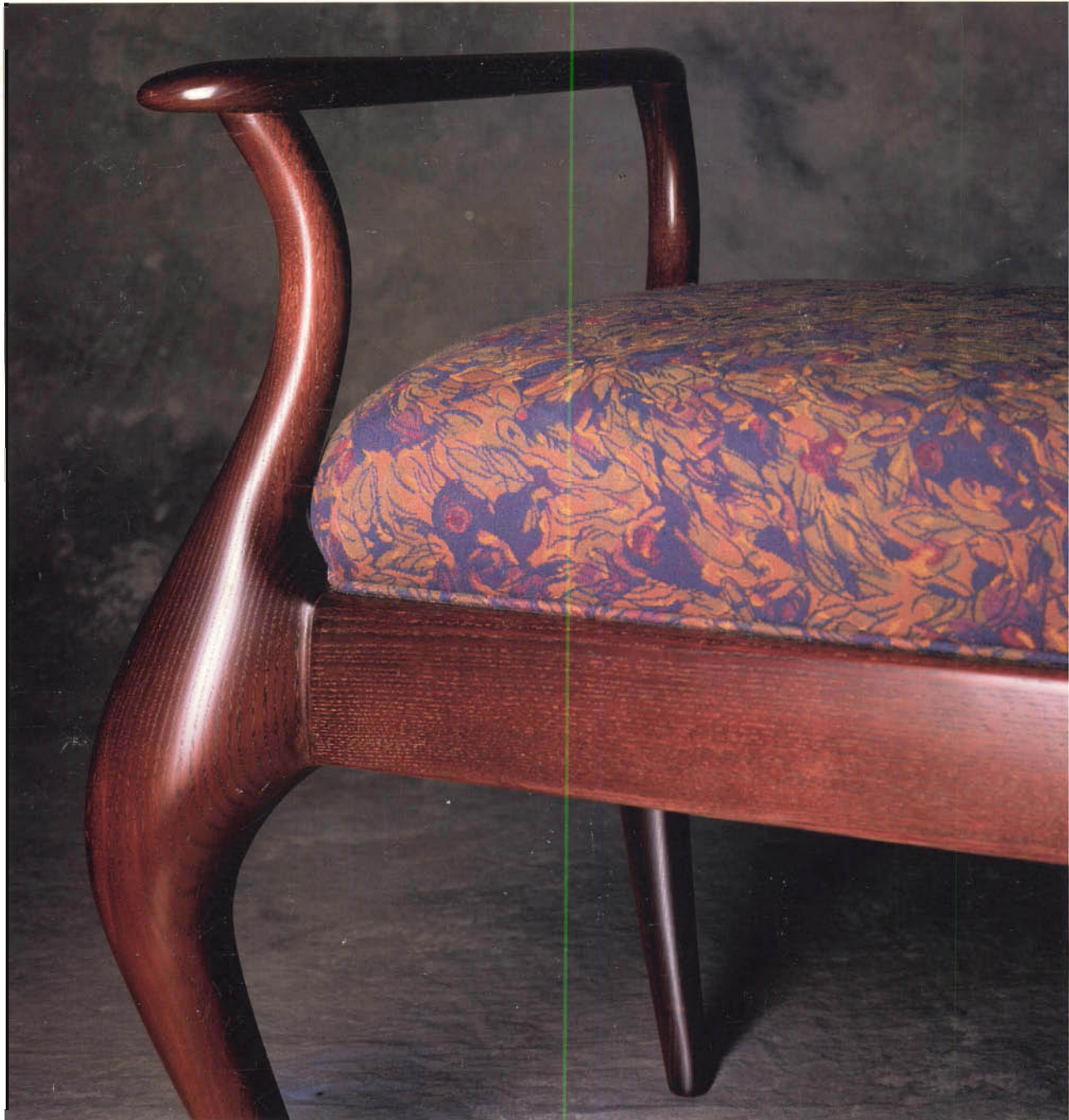


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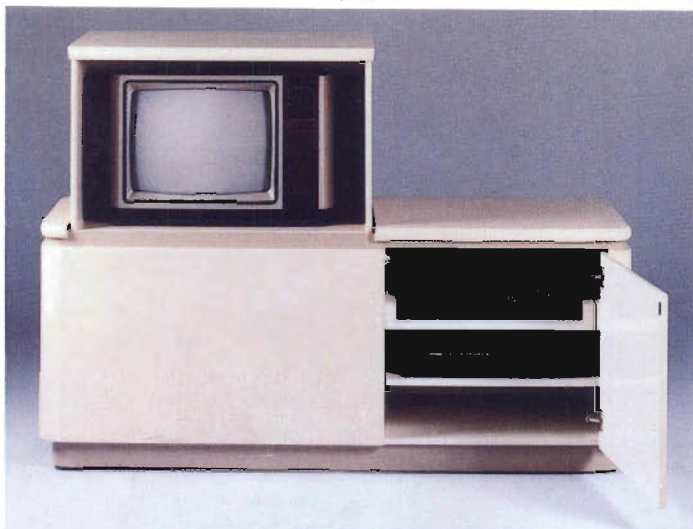
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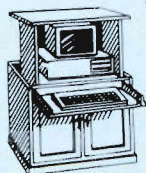
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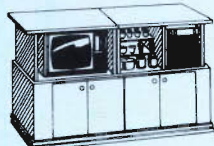
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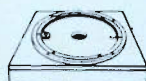
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& Keyboard



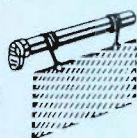
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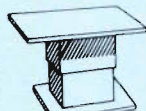
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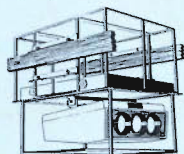
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FALL 1995 NO. 4



On the cover: Curved arms and legs are the focal points of this bench, which started out as a settee. See p. 74. Photo by Boyd Hagen.

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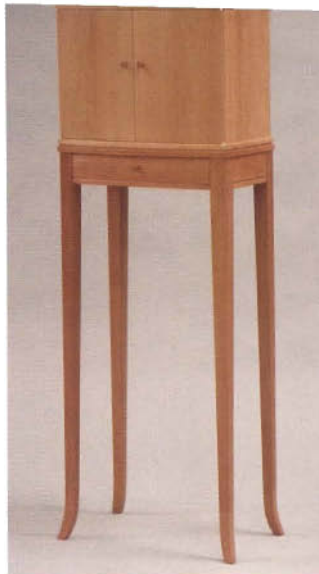
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SCALING WITH CAD

I enjoyed my first issue of *Home Furniture* (#2) and was interested in the letter about scaling furniture from photos. The method I use is almost foolproof. I have a computer, a computer-aided drawing program (Minicad) and a flatbed scanner. I scan the photo, bring it into the CAD program, then trace the photo to draw the furniture piece. With the CAD program, I can set any scale I want. I have to know only the dimension of one part of the piece. I can set the scale of the program to make this dimension equal to the known dimension (or make it some multiple if I want to make the furniture larger or smaller). The program accurately gives me the distance between any points I designate.

—Edwin J. Perry, Albany, Calif.

CAD PROGRAMS MAY NEED MORE PRINTER MEMORY

I was pleased to read Glenn Thompson's article "A CAD Primer" in issue #3 regarding the use of CAD programs in designing furniture. I have found my basic \$100 CAD program indispensable these past few years. The flexibility these programs offer more than outweighs the time it takes to learn how to manipulate them. One note: You may find it necessary to add more memory to your printer for your drawings to print out completely. My HP LaserJet 11P only printed out one-third of a drawing at a time with the basic memory provided. Extra printer memory, which cost me \$150, solved the problem.

I enjoy your magazine thoroughly. You offer a forum not often found in other publications. Stay true to your mission.

—P.A. Jones, Seattle, Wash.

LIFE BEYOND STICKLEY IS LESS ENDURING

The readers who wrote the letters in issue #2 criticizing the lack of emphasis on modern and period furniture are being a bit shortsighted in their comments. In support of the magazine, you cannot represent the entire spectrum of furniture styles to the expectations of all the readers' tastes in one issue. I think they should be more patient and more tolerant of other forms of classic furniture. There may be "life beyond Stickley," but it is far less enduring.

—Dennis Bain, Asheville, N.C.

BAR-TOP FINISH IS A DINING-TABLE MISTAKE

I was just going over the spring 1995 issue of *Home Furniture* (#2), and a reply to a question in The Finish Line caught my eye. The reader was looking for a durable finish for a dining-room table. He was advised to use a bar-top finish and to rub it out to remove some of the gloss. I must say, I was a bit surprised. I was taught by a very fine cabinetmaker that the best finish for a dining-room table, or any piece that gets a lot of use, is a polymerized oil finish such as Watco. The bar-top finish leaves a plastic surface on the piece through which one can see—but not feel—the surface. An oil finish, on the other hand, leaves a surface where one can feel the wood. A plastic finish, once

home furniture

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• See Fine Woodworking, J/A, 1991, p. 59

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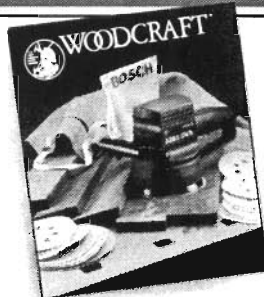
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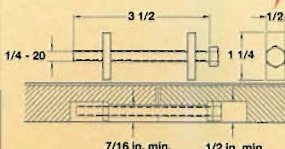
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marred (even a bar-top finish gets scratched), is not easily repaired. But an oil finish can be quickly spot-repaired. The oil finish is also very resistant to water and heat. My dining-room table, finished with several coats of Watco, has never had a ring mark from a wet glass or a scorch from a warm plate.

I enjoy your new magazine very much. Most of the work pictured is beyond my level of expertise, but it gives me something to aim for.

—John Lilley, Orchard Park, N.Y.

AVOID HOW-TO; STICK TO WHY

Dozens of magazines out there run articles on new tools, how to glue-up panels, etc., but they get pretty boring. What I appreciate about *Home Furniture* is the discussion of *why* the author built a particular piece: the aesthetic, functional and structural decisions. Resist any pressure to run "how-to" articles; for me, even the article on CAD in the summer 1995 issue (#3) was edging toward the line and was saved only by some discussion of "why-to."

—Bill Houghton, Sebastopol, Calif.

WHAT ABOUT TIME AND COST?

We love your magazine! We'd be very interested to read how much time and money goes into featured designs and approximately how much they would retail for. I love the use of the box with specifications; perhaps a time and materials box could be added.

—Richard R. Wells, Brooklyn, N.Y.

I suggest you include project cost information along with the specifications that you provide for the individual pieces featured in *Home Furniture*. The selling price for custom furniture, casework, millwork and specialty wood products varies from region to region, shop to shop and even from job to job.

Many projects featured in your publication have been executed on commission, and a selling price would be available. Noncommissioned projects, which are speculatively built, would also have a "suggested price." Projects that were not sold may have known construction costs that would be of interest if they included an approximation of labor and materials costs.

—Joseph G. Nucci, Tempe, Ariz.

CORRECTION

In *Home Furniture* #3, the address for Peter Turner, who made the *Cherry Side Table* on p. 74 of that issue (shown below), was partially incorrect. It is: P.O. Box 11165, Portland, Maine 04104.



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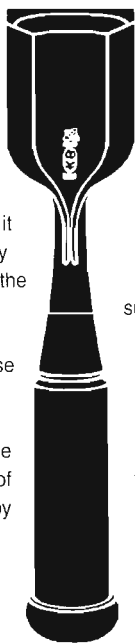
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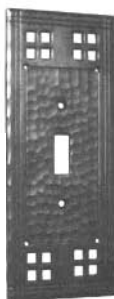
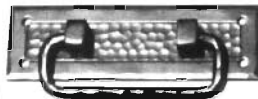
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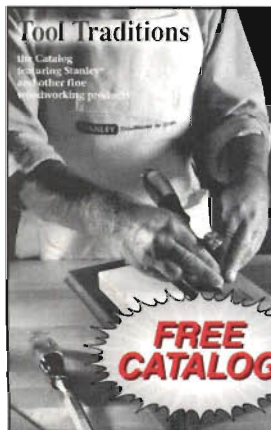
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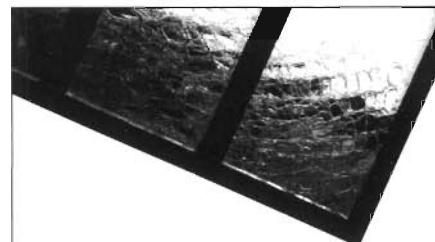


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DESIGNING A BASE FOR A STORAGE CHEST

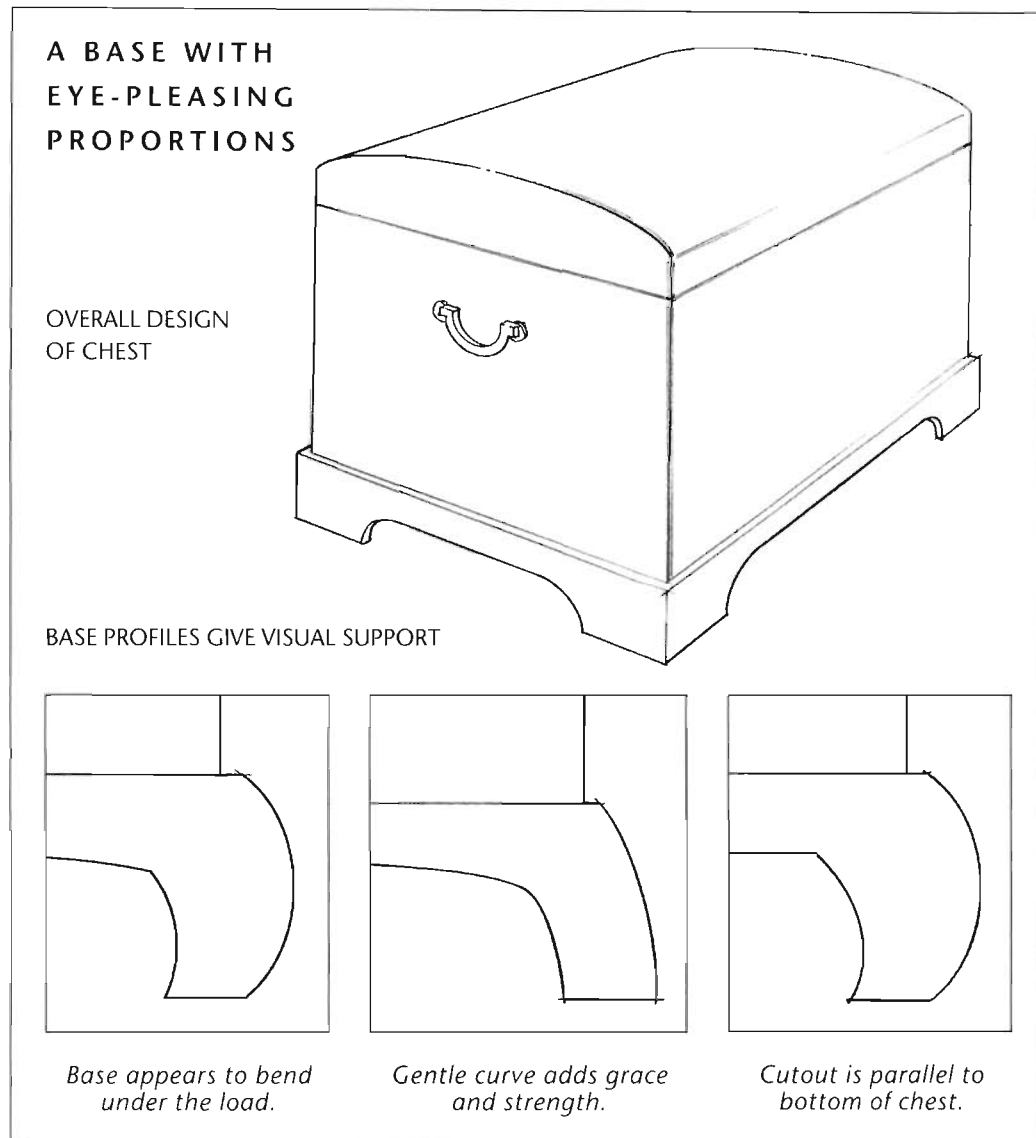
I'm building a chest (top drawing, right) to store reading materials in my family room, and I'm having trouble designing a base for it. Is there a method for determining the dimensions of a base for case furniture to get eye-pleasing proportions?

—John Saunders,
Portsmouth, Va.

J. Harvey Baker replies: The ancient Greeks developed systems of proportions for the parts of their temples and columns, but in modern times we are given no exact rules. Instead, design becomes a process of searching for a solution that satisfies the functional and aesthetic requirements of a given piece.

I usually begin with the functional: The height of the base, for example, might be determined by how much you want to raise the chest to make it comfortable to use. If dust and small items will get *under the base*, you also may want to leave enough space for a vacuum or broom to get underneath.

In addition, the base for any piece of furniture must support the piece. For your chest, the size of the base and the joinery you use



depend on the kind of stress the base will bear. The stresses increase as the height of the base increases, requiring heavier parts, stronger joints and possibly bracing.

Aesthetically, one of the biggest challenges for a base of this type is to give it

visual strength, as well as gracefulness to avoid a clunky feeling. First of all, it should be a little wider in each dimension than the chest, implying that it is made of thicker lumber (whether it is or not). It's also important to imply, visually, that the base is

supporting the piece. One way to do this is by making it curve under the load, like a cabriole leg under a table (left drawing, above). Slight curves can produce a pleasing blend of strength and grace impossible with a rectilinear design. Similarly, an arched shape

indicates graceful strength under load and mimics the shape of the top (middle drawing, facing page).

Another possibility would be to make the cutout on the base parallel with the bottom of the chest and only curve the legs (right drawing, facing page).

J. Harvey Baker designs and builds furniture in Waynesboro, Tenn.

LAYING OUT CURVES USING A BATTEN

Can you give me some tips on using a wooden batten to lay out curves?

—C. Robb, Woodbury, Conn.

Steve Bunn replies: Using a batten to create or refine a curve is simple. And like the recipe for rabbit stew that begins, “First catch your rabbit,” you must start by finding a batten. I usually just grab the nearest piece of thin cutoff stock from the scrap pile. You want a piece approximately $\frac{1}{4}$ inch to $\frac{1}{2}$ inch square by whatever length is appropriate for the task at hand. The batten I keep around is about 5 feet long.

It’s important that the batten curve smoothly along its length when you flex it in your hands. Defects in the grain, such as knots and kinks, may cause the batten

to dogleg unevenly; if that happens, look for a better scrap. A batten should be flexible enough to bend into the curve you want but not so limber that it deforms when a pencil is pushed against it.

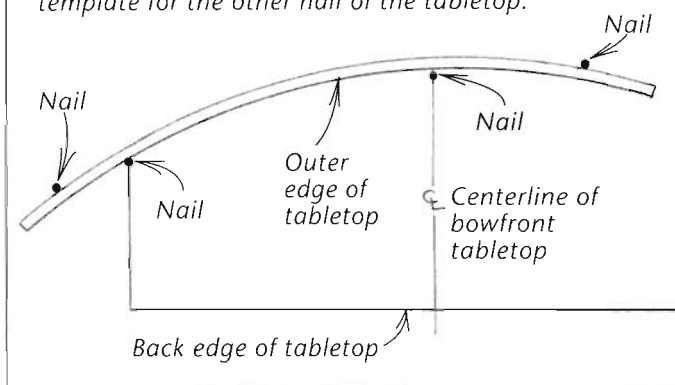
Unlike a compass, which strikes a rigid arc around a centerpoint, a batten can be bent to lay out a smooth, complex curve defined by a number of fixed points, exactly its advantage to a boat builder in laying out the complicated shape of a boat hull.

But the batten also has its uses in furniture making. For example, I often use a batten to lay out a bowfront tabletop. Because there is no guarantee that a batten will bend symmetrically on either side of a centerline, I use it to lay out one-half of the tabletop. By making a half pattern and using it to mark out both halves of the top, you are assured of constructing a symmetrical curve.

I use a heavy piece of corrugated cardboard as a template (cardboard is cheaper than plywood). On the cardboard I draw a straight line to represent the back edge of the tabletop. Next I draw two lines 90° to the first line to establish one outer edge and the centerline of the top.

LAYING OUT A BOWFRONT TABLE WITH A BATTEN

The batten defines the curve up to the centerline of the tabletop. This curve can be used as a template for the other half of the tabletop.



Once I establish the overall dimensions of the top, I can bend the batten around nails driven through the points on the cardboard (drawing above) into a bench or the floor (this is one reason why many boat shops have wood floors). Use nails or clamps to hold the batten while you pencil in the curve, or get a second person to strike a pencil line along the bent batten while you hold it. After you’ve drawn a curve you like on your template, you can draw the rest of the design full size.

A batten also can be used for “fairing” curves. For example, I recently made a template of a rocker to be used on a Windsor rocking chair that I had to scale up to full size. The scale drawing was in millimeters, and

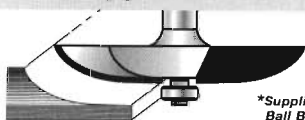
to complicate matters further, I wanted to make the rocker two-thirds of the length shown in the scale drawing. Converting the millimeters into inches and plotting points on a grid created a pattern that I knew had to have some distortion. By springing a batten through as many of the points as possible, I was able to create a smooth, “fair” curve without bumps or flat spots.

With practice, using a batten to create curved shapes is easy. One reminder: Make sure to mark and save the batten you’ve made. I hang mine near my bench to keep it from getting lost. That way it’s there the next time I reach for it. *Steve Bunn designs and builds Windsor chairs and custom furniture in Bowdoinham, Maine.*

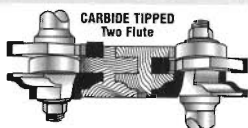
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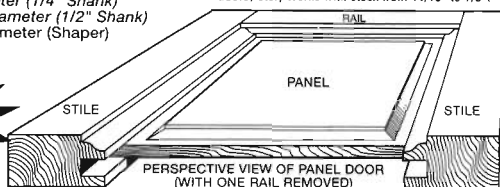
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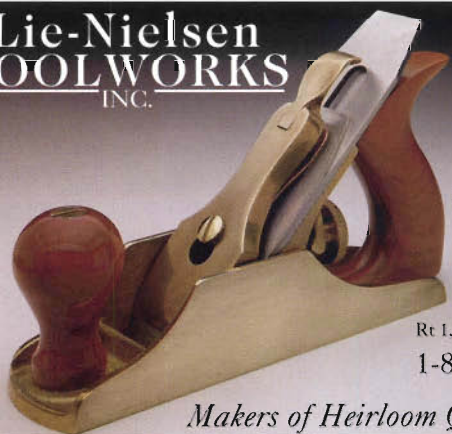
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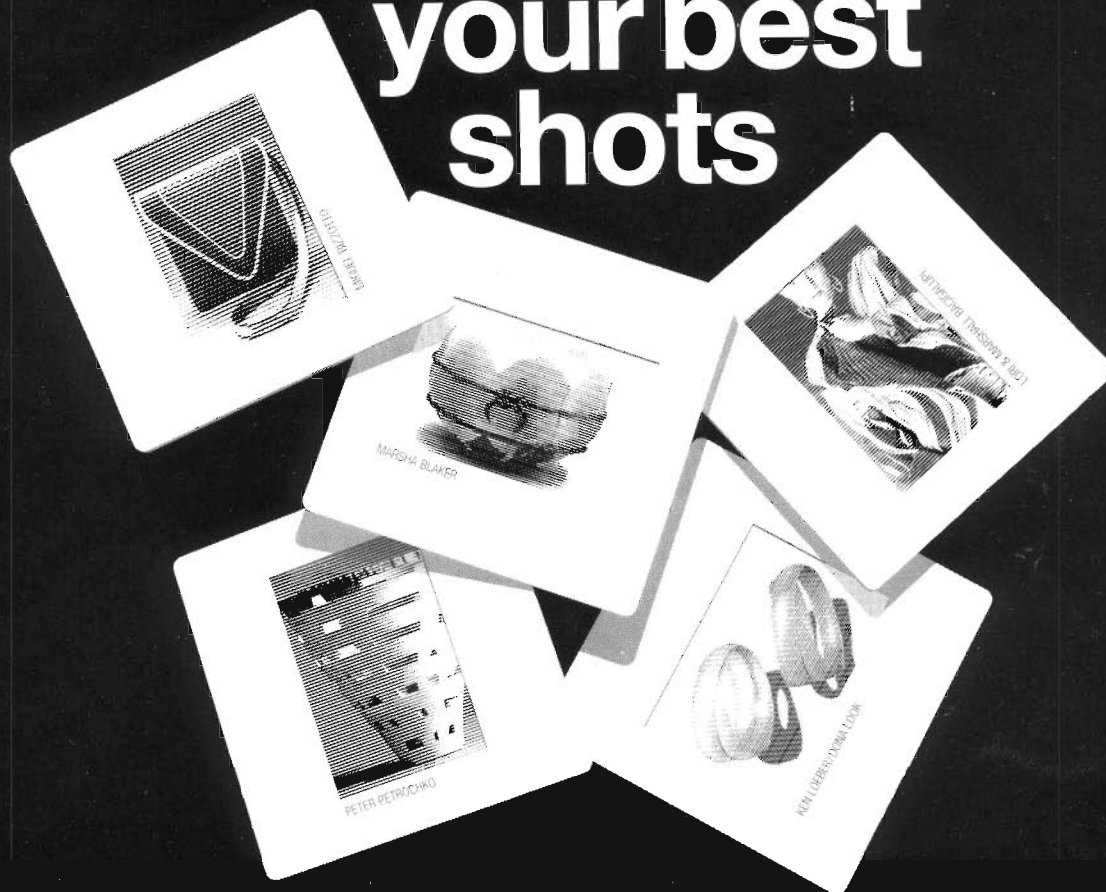
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STAINING CANED CHAIRS

I have caned many chairs, but I have trouble getting the cane to take the stain or color. What is the secret?

—John A. Hamilton, Jr.,
Carson City, Nev.

Ricka White replies: In my restoration work, I am often confronted with the issue of staining and/or finishing cane seats. This is usually a case where less is more, and I recommend that cane be left unfinished to age on its own.

Caning tends to mellow with age as the little fibers on the edges come off, and the material darkens with use and exposure to light. Most finishes and stains cause the cane to become brittle, which shortens the life of the weave. In addition, cane has a waxy surface on one side that acts as a natural finish. As I have discovered in my own work, it really doesn't like to be stained.

The instances when it might be necessary to stain and finish cane are when only one seat of a set, or a portion of the seat (the seat but not the back, for example), needs repair or replacement, or when restoring museum pieces, which are usually very dark. In both cases the replacement cane must be darkened to match the original.

When you find it necessary to darken the color, I recommend using an oil-based stain, which can be



Leave cane alone. The cane used for chair seats and backs often has a waxy surface, making a stain or film finish unnecessary and often detrimental.

applied and left for several days. The recommended finish is shellac, which tends to make the cane less brittle than varnish or lacquer.

Ricka White is one of three proprietors of The Unfinished Universe, which specializes in restoration work and sells hardware and finishing, caning and weaving materials in Lexington, Ky.

MIXING OIL AND VARNISH

I've noticed that many furniture makers mix oil and varnish. Why do they do this, and what are the proper proportions?

—J.D. Durham, Oakland, Calif.

Mitchell Kohanek replies: In the history of wood finishing, there have been countless varnish formulas. And because almost all varnishes contain oil (except for some "spirit varnishes"

and water-based varnishes), there is no "proper" proportion.

There are four basic ingredients in today's varnishes, each having a distinct function. These components are resins, thinners, driers and oils. Resins protect against abrasion, heat and accidental spills and today are usually synthetic and either alkyds, phenolics or polyurethanes. Driers are metallic salts that assist the oils to cure. Thinners, such as mineral spirits, are added to make the varnish easier to apply.

The fourth component is the oil, which primarily gives the finish its flexibility. Flexibility is directly related to how much the wood will expand or contract due to moisture exchange caused by humidity changes. The proportion of oil in varnish varies, depending on how flexible the finish has to be. "Short oil" varnishes are approximately 33% to 45% oils and are used for interior work. "Long oil" varnishes, used for exterior finishes (such as boats), can be as high as 71%. Common oils used are tung, linseed, soybean or safflower, each having its own characteristics.

Whether you use it out of a can or mix it with oil and rub it on, you are basically using a varnish with different amounts of oil in it. You always read about how someone has invented the perfect varnish with other oils, thinners or resins, when actually they are just manipulating the four basic ingredients. Some of those I have read and found interesting, some amusing, and some damaging. *Mitchell Kohanek is a wood-finishing instructor at the Dakota County Technical College in Rosemount, Minn.*



Shellac is easy to repair and touch up, while polyurethane varnish offers better protection.

SHELLAC VS. POLYURETHANE

What is the difference between shellac and polyurethane? Is one easier to apply than the other? And once they've been applied correctly, can you tell the difference?

—William Harmon, New Paltz, N.Y.

Walter Raynes replies: There are lots of differences between shellac and polyurethane varnish, and your choice will depend on the piece you are making and its intended use.

Shellac is a forgiving finish for the nonpro. It's not difficult to brush on, and it's easy to rub out. Brush marks and sags can be rubbed out or reworked by adding a solvent, usually alcohol, to redissolve the shellac. This can be done at any point, even when the shellac is dry, making it easy to repair or touch up. It also dries faster than varnish, and it goes on thinner, which means it doesn't leave a commercial, plastic look that sometimes results from a polyurethane varnish.

Polyurethane varnish works in a much different way than shellac. When it is drying, the varnish is actually curing, a chemical reaction that makes the finish resistant to many solvents, including its own thinner. It therefore offers much better protection against all sorts of abuse, such as water, abrasion and heat. To get this protection, however, there are sacrifices. Polyurethane varnish takes longer to dry, and it's more difficult to rub out and repair.

Sometimes it's easy to tell the difference between shellac and varnish, and other times it's harder. Varnish is usually a thicker finish, and to my eye, it looks heavier and less delicate. Shellac, on the other hand, can be applied in very thin coats (which penetrate the surface well) and tends to make the wood look brighter, but this may be a matter of personal preference.

Walter Raynes makes custom furniture and restores antiques in Baltimore, Md.

SOMETIMES NO FINISH IS BETTER

Some furniture makers don't use a finish at all. When is this appropriate, what are the reasons for not using a finish, and are there disadvantages?

—Jon Renner, Scranton, Pa.

Carl Swensson replies: Not using a finish is more or less a matter of taste or philosophy. I learned from a Japanese master carpenter how to produce a beautifully finished surface with a hand plane.

A film or oil finish fills, covers and hardens the wood's surface, sometimes giving a sheen that can look and feel cold when it's not right for the design. Other times the effect may be more subtle, but something is still put between the viewer and the object. A simple planed surface leaves an object close to its natural state.

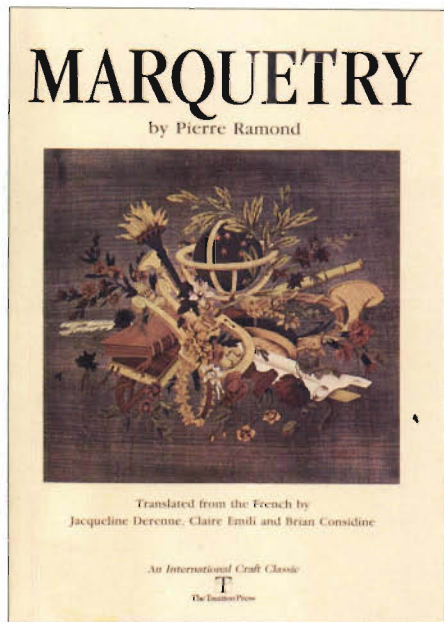
An unfinished surface is not always the best solution, though. A tabletop, for example, often needs the protection of varnish or shellac. I avoid applied finishes when I'm trying to create an intimate feeling in the design and when the piece is not going to get heavy wear.

Critical to an unfinished surface is the final pass of the **hand plane** (I use a Japanese hand plane). When I know that a piece will be left unfinished, I plane each part by hand before I cut any joints, marking the grain direction carefully to prevent any mishaps on the final pass. With a properly tuned and sharpened plane, it only takes one or two passes on a piece to produce the desired effect.

Carl Swensson builds traditional American and Japanese furniture in Baltimore, Md.

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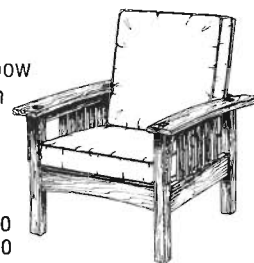
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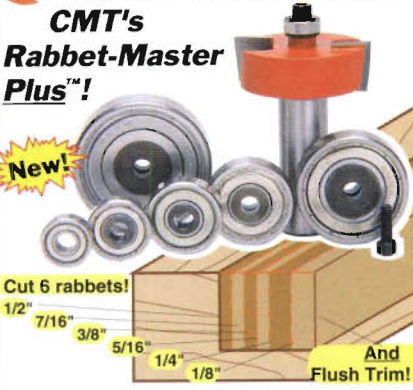
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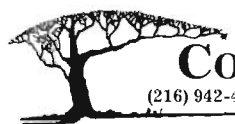
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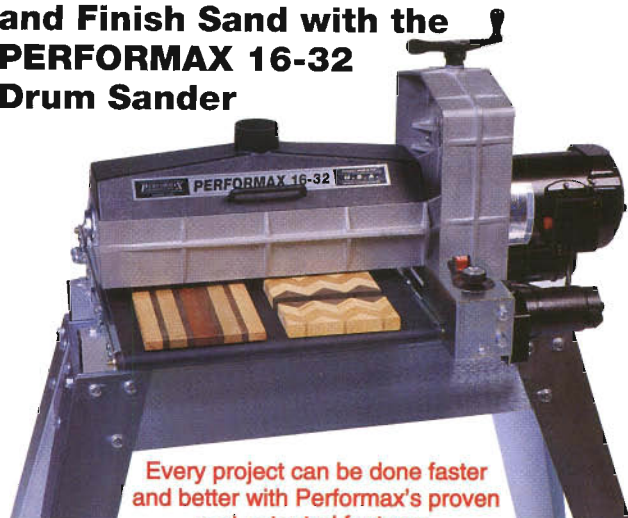


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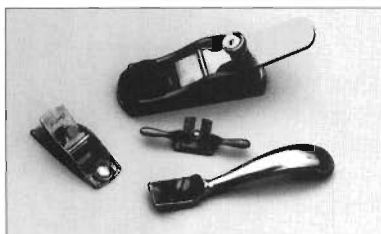
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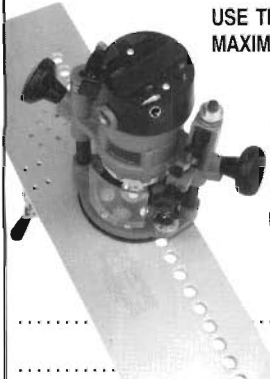
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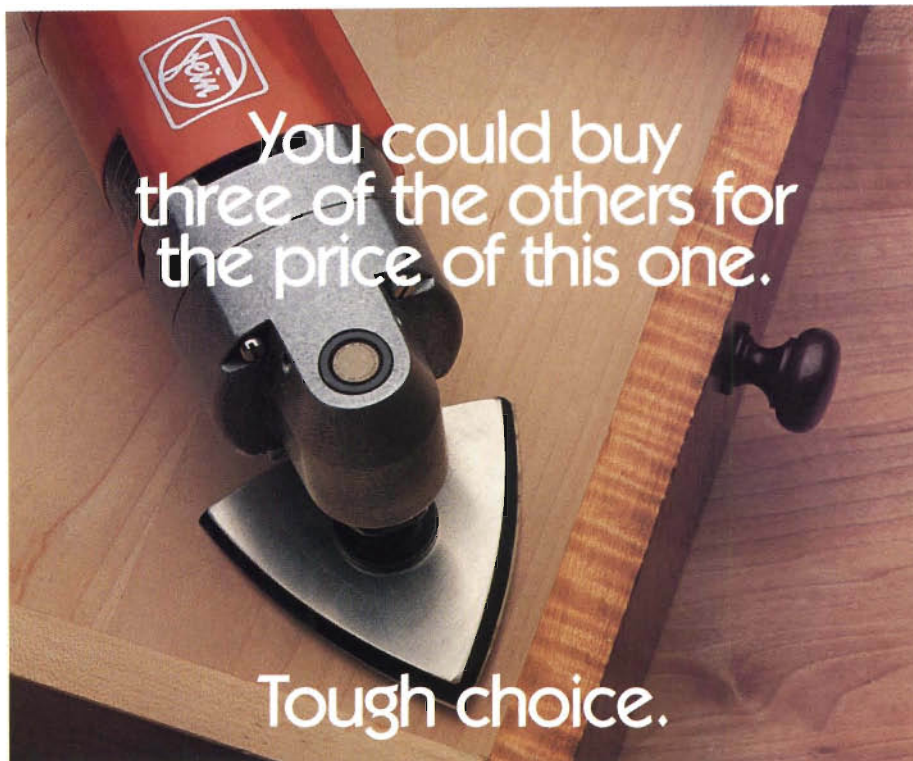
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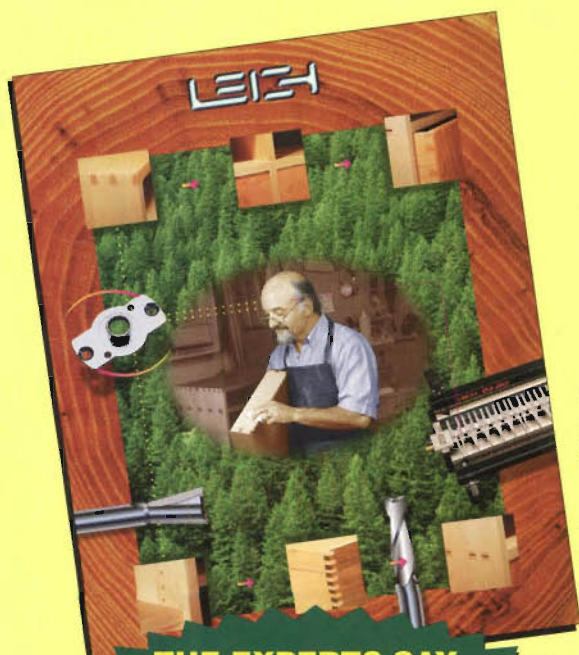
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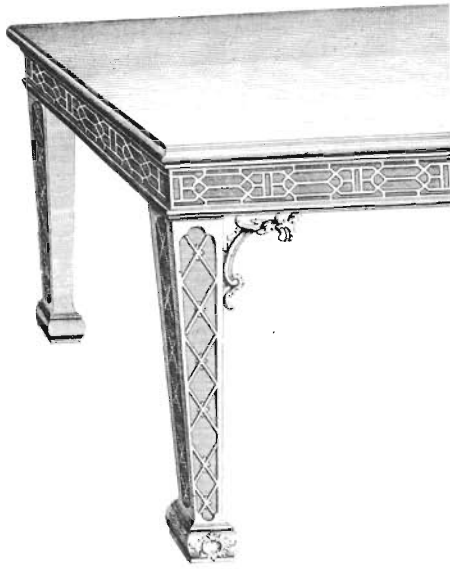
Old Forms, New Furniture

Drawing on the essence of period styles to create
modern pieces with a pedigree

BY CURTIS ERPELDING

Diamond-Etched Writing Desk

Thomas Chippendale and the router were the chief influences on this small writing desk. In Chippendale's *The Gentleman and Cabinetmaker's Director*, I had been looking at his Chinese and Gothic designs, with their applied fretwork. I wanted to come up with a decoration for my desk that evoked both the pattern and the texture of that adornment but with a more modern feeling to it. A router enabled me to do that quickly and effectively. I repeated the diamond motif in the veneer design of the top. The stringing and diagonal cross banding on the top also echo 18th-century practice. I based the small scale of the table on the ladies' writing and dressing tables of the 18th century.



Blending the centuries. In a range of furniture, the author braids techniques and materials of the 20th century with patterns and shapes of the 18th century. The incised diamonds on the author's cherry and ebony table (right and opposite) paraphrase rather than imitate the fretwork illustrated in Chippendale's *Director* (above).



the finest furniture of the past was a precise fit for the needs and tastes of its time. Maker and customer were in accord on matters of craft and design. As in so many other ways, our times are different. A thousand fads compete for our fancy. Most of these fads offer, at best, a sorry misinterpretation of the past and, at worst, a complete rejection of it. Between mass-market reproduc-

tions and polished chrome and glass, we are left searching for an honest, comfortable style that connects us to both our handmade past and our computerized present.

I was striving to find such a style when I sat down to design the furniture shown here. I brought together the clear lines, the pale woods and the machine methods of mid-20th-century

furniture with the veneer and inlay patterns, the cabriole curves and the careful craftsmanship of the late 18th and early 19th century. I didn't seek to reproduce exactly the details of either era, but to find something of their essence. I tried to bend the modern and the classic toward each other.

When I first began making furniture, my favorite style was 1950s modern,

Coved Corner Cabinet

Ideas from widely separated sources and centuries came together in this corner cabinet in cherry, bleached anigre and ebonized veneer. The pattern of the glazing bars is taken from 18th-century casework that was inspired by Chinese furniture. The glazing bars give the piece its strongest definition.

Breaking my cabinet at the waist with a large cove was suggested by a cabinet I had admired in the 1970s made by James Krenov. I liked the way the large cove provided both a transition and a distinction between the upper and lower cases. A piece like this, after all, is assembled from separate parts, and I like to express that in the detailing. I emphasized the separation further by cutting recesses above and below the cove, creating shadowlines between the cove and the adjacent thumbnail moldings. At the top of the cabinet, I used another large cove in a crown molding that harks back several thousand years to Egyptian temple design.



Borrowed glazing bars. The author's corner cabinet (left) borrows its glazing pattern from Chinese-influenced work, such as the George III mahogany breakfront bookcase at right.



especially the Scandinavian designs. I liked Scandinavian furniture's simplicity and its tendency to equate form with structure and function. I admired the way the form of a Hans Wegner chair seemed to grow right out of its joints. All of my furniture designs have been affected by this search for the simple forms of utility.

But even though I was most drawn to stripped-down design, I studied all sorts of furniture. To me, some of the strangest and most fascinating designs were those by the three greats of the 18th century: Thomas Chippendale, George Hepplewhite and Thomas Sheraton. Their designs represented the very antithesis of Scandinavian Mod-

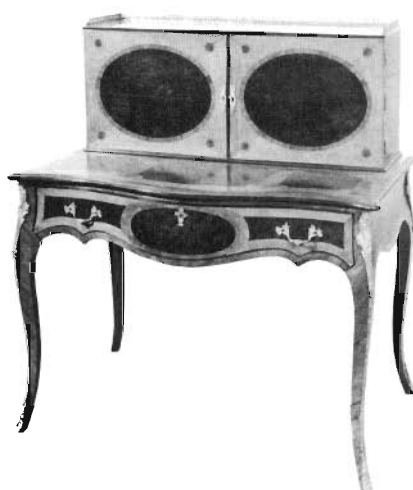
ern. The obsessively florid detail, structures that seemed to defy gravity, and the assumption that more was always better—all of this was foreign if not repellent to my Modernist sensibility. But I found myself oddly attracted to it anyway, to the way this furniture could blend deft proportioning and stunning surface design.

Soft Serpentine Hall Table

I thought about this table from above as I started to design. I drew a plan view of the top, working out the soft serpentine of the front and the sunburst pattern of the veneer before I considered the understructure. It is a descendant of the pier tables of the 18th century, which were primarily decorative pieces made to stand against the wall between windows in a formal living room.

I had been struck by the serpentine forms in Hepplewhite's designs, but I aimed for something more restrained. I smoothed the bombe bulge at the center of the front. The sunburst pattern of the veneer emphasizes that this table's place is against a wall.

I took the sculptural cabriole leg of Hepplewhite chairs and tables and lessened the curves. By making the legs thin and square in section, I maintained a connection with more modern work while borrowing from a few centuries back. I left the back legs straight, as another way to tie the table to the wall.



Hepplewhite moderated by a Modernist. Inspiration for the author's hall table in cherry, ebony and ebonized inlay (below) came from 18th-century pieces, such as the Hepplewhite desk in tulipwood, thuya and holly (left).



I continued to build in a modern mode, using "form follows function" as my gospel. As time passed, however, I began to lose the faith. I was bored by the spareness of the modern idiom and sought to incorporate more detail and ornament into my work. Modernism offered only refinement through reduction, which was a dead end for me.

At the same time I could see that although my customers responded well to the handcrafted and simple style of my work, my pieces often didn't fit well with the other furniture. The furniture passed down in their families or collected as antiques was furniture with historical allusions. I began to see that function is not merely utility and

that comfort is not simply ergonomics. My customers valued their furniture because it connected them to the past, both the personal past of their families and our shared past as a culture. I wanted to make my own furniture share that historical value.

For inspiration, it seemed natural to turn back to the period between

Reinventing Regency. The decorated surfaces of 18th-century casepieces, such as this satinwood Regency commode (right), inspired the author's desk in maple, ebony and ebonized inlay (below).



Crescent Desk

Broad, flat surfaces decorated like a painting. This was the effect of some case furniture built at the end of the 18th century and the start of the 19th, as the highly sculptural rococo style changed to the more linear and classical Regency and Federal styles. I wanted to obtain such an effect in this desk, and modern construction techniques granted me the broadest possible canvas. I built the desk with veneered plywood, as a torsion box: All the vertical panels, both curved and straight, are splined into the top and the full bottom, forming a structure of ribs that is remarkably strong and stiff and leaves the outside surfaces uninterrupted by rails and stiles.

In my first drawings, this desk was rectangular. But curving the desk gave it some of the dynamic feeling that had thrilled me in a number of late 18th-century pieces. The stringing pattern with squared corners is common in furniture of that era; my addition was to curve the lines of the diamonds to play off the overall curve of the desk.



about 1760 and 1800, when the free-flowing rococo lines of Chippendale's middle period gave way to the stricter, more classical lines of Hepplewhite and the early Sheraton. Here was a period that, to my eye, had successfully balanced both ornament and structural form.

I have discovered that I feel most comfortable with a foot in both worlds, the past and the present. If that's being anachronistic, well, in this age of the microchip, woodworking itself is a bit of an anachronism. I believe I succeed if I can create furniture that fits contemporary life-styles yet re-

spects the fine traditions on which the craft is built. ■

Curtis Epelding, of Port Orchard, Wash., has been designing and building furniture since 1975. He shows his work in Seattle, at the Northwest Gallery of Fine Woodworking.

Flowing Armchair

Inspiration for this cherry armchair came from Greece by way of England. I had been looking at English Regency designs of the early 19th century, some of which were interpretations of Greek Klismos chairs. The shape of my chair's back is derived from the Klismos chair's tablet-shaped crest rail. The curved X-shaped splat has antecedents in Sheraton and Regency chairs. The continuous line of my chair's front leg and arm also derives from Regency examples, such as the one at right. In the maple version of my chair, built to be used with the crescent desk (bottom photo, facing page), I used ebony inlay to help define the chair's curves.



An arm to span centuries. The flowing arm-into-front-leg design of the author's cherry armchair (left) is derived from Regency chairs, such as the one above.



Tage Frid: Woodworking Master and Mentor

He revived Old World craftsmanship in America

BY JONATHAN BINZEN



At home in the woods. For Tage Frid (it rhymes with, “hey, kid”), work and home are bound together. Tage and his wife, Emma, posed recently in their yard on a bench Tage made in 1954.

tage Frid stepped off a boat from Denmark in 1948 and discovered that Americans didn’t understand him. It’s true that his English—taught him by a Dane who learned from a Dane who learned from a Dane—was hard to follow, but that was quickly remedied. The problem went deeper. No one knew what he was talking about.

Frid had been recruited from his native Denmark to teach woodworking

at the fledgling School for American Craftsmen, then in Alfred, New York. At 33, he already had 20 years of experience in woodworking: a classical five-year European apprenticeship with a Copenhagen cabinetmaker, stints in several other cabinet shops, 10 years with the Royal Danish Cabinetmakers, where he once built ship furniture designed by Hans Wegner, and several years designing and building interiors

in Iceland. So he had plenty to impart. But no one knew to listen. The craft of furniture making in America, so robust in the Colonial era and still vital through the 19th century, was virtually extinct. In the 30 years since World War I, the rush to modernization and mass production had all but killed handmade furniture. Frid was fluent in a dead language.

Frid’s response was to teach that lan-



Put the mass where you need it. Frid's walnut dining chairs from 1983 thicken at the joints and justify his conviction that furniture looks best when it expresses its structure honestly. His sideboard is a meditation on the dovetail, taking its shapes from full and half dovetail pins.

guage so clearly and with such energy and charisma that he became the strongest single force behind a wide-ranging revival of craft furniture in the United States. Frid's influence began in the classroom and fanned out from there. He taught full time at the School for American Craftsmen for 14 years, two of them in Alfred, and the rest in Rochester, where it is now affiliated with the Rochester Institute of Tech-

nology (RIT). In 1962, Frid left RIT and founded the furniture design department at the Rhode Island School of Design (RISD). He taught there until 1985 and is now professor emeritus.

Over the decades, Frid's classes spawned a steady flow of top-flight woodworkers and also proved to be the training ground for the next several generations of woodworking teachers. In addition to his full-time teaching,

Frid has given scores of seminars, lectures and workshops around the country. And in the mid-70s he began putting his teaching on paper, first in articles and then in a three-volume series of books that instantly became essential reading for anyone learning to work wood. So far, the books have sold a quarter of a million copies.

If you drew a family tree of direct influence from these sources, with Frid



Curves and contrast. To highlight the veneer on these tabletops (left), Frid lets the contrasting maple substrate show through the rosewood veneer. To emphasize the curve of the legs, he chamfered through the veneer to reveal a stripe of maple.



A few notes make a fine composition. Frid played with the theme of curves and bevels in this walnut bureau from 1990. Frid advises, "Don't put 300 things together. They'll just fight each other."

at the root, it would branch into almost every woodshop in the country.

A NATURAL TEACHER

What strikes you right away when you see work by Frid's students is its diversity and the distance between his work and theirs. One of the basic tenets of Frid's approach to woodworking is "design around the construction": Figure out how best to put the piece together and let that determine the way it looks. Getting students to submit to that discipline often was an uphill battle. Quite a few of them approached their work the other way around, letting the design dictate the construction. His students all seem to have absorbed his concern for fine craftsmanship, but they've taken it in a dozen directions.

Frid's own work, which has its roots in Danish Modern furniture, is always functional and tends to be restrained and to speak with its details. In spite of this clear preference, he encouraged students who made more artistically expressive furniture. One former stu-

dent, Hank Gilpin, says, "He'd help you all the way along, and then at the end, he'd say, 'Pooh! Get that crazy thing out of here. Where'd you get that idea?'"

Frid was after excellence, not conformity. Gilpin, who studied with Frid at RISD in the early 70s and makes custom furniture in his own shop in Lincoln, Rhode Island, calls Frid "a natural teacher. He didn't educate people in order to reproduce himself or justify himself, but to pull things out of them. I think he was attracted to the power of potential in a student; he didn't want to crush it."

Confidence was an essential part of what Frid taught. It was rooted in the students' woodworking—he would encourage students to cut right to a line rather than leaving waste and paring to the line—but the confidence he instilled had effects beyond the shop.

Roger Bergen studied under Frid at RISD at the same time Hank Gilpin did. Bergen had a shop of his own for several years, but he couldn't make it work financially. He hasn't gone back to woodworking, but still, he says, "Tage Frid probably had more influence on my life than any single person. He taught me focus. Absolute concentration on a single purpose." Since closing his shop in 1978, Bergen has focused on building businesses instead of furniture. Within a decade of closing his woodworking shop, he was CEO of both The Nature Company and Smith and Hawken, responsible for 4,200 employees. He recently



In Frid's hands, a kitchen feels like furniture. Frid's many kitchens are wonderfully functional and have the warmth of furniture. The cherry tambour cabinets in this one from 1975 grant extra headroom at the counter. The stools are tall versions of a trademark Frid design from the 50s.



Tambours take any shape. Building his walnut liquor cabinet of tambours enabled Frid to give it an oval outline. The piece is finished all the way around, as is most of Frid's casework, so that it can stand away from the wall or serve as a room divider.

resigned the post and is acting as a consultant to the companies while he contemplates his next challenge. Whatever that may be, you get the feeling he'll approach it head-on. "Frid really instilled a tremendous amount of confidence. I left there thinking I could do something quite well."

It is Frid's peculiar gift to be both dead serious and dead funny. Former students mention not only his utter commitment to woodworking but also his humor, the twinkle that was evident the minute you met him. He never missed a chance to get off a zinger, deflating himself or someone else, whoever made the best target. But in another beat he would be back with the conversation, analyzing, criticizing or praising. Bergen remembers that Frid got through to people with his humor. "He was intense and serious, too. He didn't want people who weren't fully committed. But once he saw you were, then the humor just flowed."

AN INTEGRATED LIFE

People were attracted to study with Frid for the link he provided to centuries of craftsmanship. But his impact as a mentor went beyond that. At a time when there were almost no other American craft furniture makers to look to, Frid showed by example not only how to make the furniture but also how to shape the life of a craftsman. Rosanne Somerson, who studied under Frid at RISD in the mid-70s and now teaches there herself, found Frid's life as captivating as his teaching. Visiting Frid and his wife, Emma, on their farm, Somerson says she was struck by "a lifestyle that was so total, so attached—the animals, the gardens, even

the way meals were served. There was such a sensitivity to nature. As students, we all looked at that and said, 'This is the tops. I want in.'"

As Somerson points out, though, "Not everyone has a spouse like Emma." Friends and acquaintances speak glowingly of Emma Frid and say her support and help were fundamental to Tage's success. She left the woodworking to Tage, but "they were a real team," Somerson says. "Emma's role was different but in some ways as crucial. She was such a positive influence."

The balance in Frid's life was evident as well in how he sold his work. "It's not just about making beautiful furniture," he says, "but how do you get rid of it?" There was almost no market for his work in the early days, so in 1952 Frid, along with colleagues from the metals and ceramics departments at RIT, formed a cooperative gallery, Shop One, to show and sell their work. At the time it was a novel idea and attracted interest from craftspeople around the country. The gallery changed principals but stayed in business for over 20 years. Bill Keyser, who studied with Frid at RIT from 1959 to 1961 and has been teaching there since 1962, says Frid and Shop One provided "a terrific role model for what is possible. People like Tage laid the groundwork for an appreciation of handcraft. Shop One is long since out of business, but we're still reaping the benefits."

MASTER OF THE GENTLE PUSH

Frid pushed his students, pressing them to go faster and work more economically. Geoffrey Warner, who studied under Frid at RISD in the early 80s and runs his own shop, remembers a favorite phrase of his teacher's. "I have this picture of him on my shop wall," Warner says, "and under it it says, 'Go! Go! Go!'" Tage would say that at the beginning of each class. "It was Frid's way of saying that furniture making is about action, not reflection."

When a student completed a piece of furniture, Frid didn't stand around

stroking it. He'd always prod students to remember that soon they'd have to make a living at this. His response to a finished piece was usually, "What's next? What haven't you done? Tam-bours? Knife hinges?" Bill Keyser remembers Frid asking him one day in his second year what he was going to build next. "I told him I was going to make a stool. He asked me how long it would take me. I said it would be quick, maybe three weeks. He said, 'I want you to design one you can make in a day. Next year you'll be out of here.'" Keyser worked feverishly on the design and came up with something he built in three days. "I didn't quite get there, but it was an important lesson. He was always setting goals that were a little bit beyond our grasp."

Just as his students were drawn to the way he conducted his life, Frid entered theirs. He took them and their futures seriously. Gilpin, who worked in Frid's shop after leaving RISD, remembers that six months after he started, there was a phone call in the shop. "Someone wanted a kitchen. I could hear Tage saying, 'I can't do it; I'm going to be away. But I've got somebody here who can do it for you. I'll put him on the phone.' I'm gesturing 'No, no!,' and he's gesturing 'Yes!' and pointing at the phone. I took the job and haven't been without work since."

FRID IN PRINT

Improbably, Frid's charisma and authority are nearly as potent on the page as in person. In the small woodworking shop in Philadelphia where I worked in the early 80s, learning from two young, self-taught craftsmen, Tage Frid was a god. His book on joinery, though revered, was never treated with much respect. It spent as much time on the bench as any tool, and half the pages wound up dog-eared, smeared with glue or mayonnaise, fraught with notes and calculations.

Frid's books grew out of his articles for *Fine Woodworking* magazine. Left to his own devices, Frid might never

have done any writing about woodworking. But in the early summer of 1975, Paul Roman recruited him to write for the first issue of the magazine. Roman, whose success with *Fine Woodworking* blossomed into Taunton Press, which now publishes six magazines, including this one, along with books and videotapes, was doing much of the editing, writing and photography himself for the first issue. He even wrote the promotional copy. "I was writing the promo piece," he recalls,

A FAMILY TREE WITH FRID AT THE ROOT WOULD BRANCH INTO ALMOST EVERY WOODSHOP IN THE COUNTRY

"and the line was, 'We'll have excellent authors, like....' I was stuck at that point and needed to fill in the blank." Roman went to recruit Frid, first at RISD and then at the Frids' farm. Frid demurred, but Roman was persistent. "I wanted closure," he says. "I wanted to go back to the typewriter and say 'Tage Frid.'" Eventually, Emma persuaded her husband to give writing a try.

From the first, Frid's articles had an audience. "There was something authoritative and authentic in everything he wrote," Roman says. "When he wrote something, people paid attention."

Roman says that meeting Frid changed his concept of the magazine. "I don't know if I had a prototype in mind, but I was probably going to do something that felt like industrial arts. That was the only example available. It was Frid's world that changed it." And Roman could be speaking of American woodworking as a whole, rather than just the magazine, when he says, "[Frid] gave it a new level of expertise, of tradition from the Old World that most woodworkers here didn't know about." ■

Jonathan Binzen is associate editor of *Home Furniture*.



Do not disturb the wood. The calm proportioning and integral detailing of Frid's mahogany cabinet let the curly mahogany veneer of the door panels sing. "Wood is a beautiful material," Frid warns. "Sometimes the more you do, the worse it looks."

Veneer is no False Front

Many say solid wood is better,
but veneer has a distinguished history

BY ABRAM LOFT



Not a new idea. The back slats of this Egyptian chair, built in 1440 B.C., were veneered in ivory. Even in ancient times, the inferior was covered up by the more valuable.

A rainbow of veneer.

This sampling of sliced veneers includes (left to right) English yew, Australian walnut, anigre, benge, pearwood, tamo, purpleheart, ash, padauk and silky oak lacewood.

he veneers in first-rate style, but the mahogany scales off now and then," wrote Oliver Wendell Holmes in 1883, deriding the man who cloaks personal defects under a showy surface. He was alluding to cheaply made furniture of the Industrial Age, in which the skin of veneer sometimes came unglued, revealing shoddy workmanship—or character, in Holmes' case—underneath.

Veneer has been with us since ancient times and has been used on

some of the most prized furniture ever made. Yet it has never been able to shake its reputation as a deceptive, superficial adornment—as something less than solid wood. Some cabinet-makers, in fact, are often sheepish about drawing attention to veneered elements in their work, even though the craftsmanship and design is beyond reproach.

But people who use veneer continue to produce some of the most expensive and sought-after furniture, and a growing number of craftsmen are turning to veneer as lumber prices soar and as technology makes it easier to use.

CENTURIES OF VENEER

Veneering has been traced back to ancient Egypt. Using animal glues made of bones, hides and blood, Egyptian carpenters covered wooden forms with colorful veneers and inlays of wood and ivory (photo, facing page).

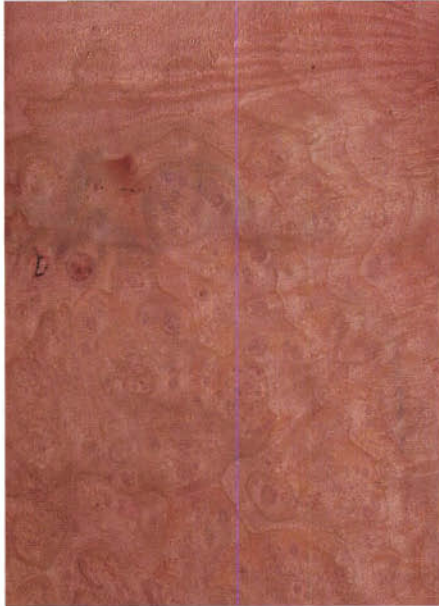
The practice continued in imperial Rome but had already become suspect. Pliny, a first-century naturalist, decried the masking of a common wood with a layer of a more valuable species and the painting of an inferior wood to simulate the grain of a finer one.

Despite such criticism, veneering survived and prospered—except for a period in the Dark Ages, when furniture was scarce even for the gentry. During the Renaissance and into the 17th century, European artisans used veneers and contrasting inlays to decorate boxes, chests and church woodwork, as well as furniture. Among the





REDWOOD BURL



MADRONE BURL



WALNUT CROTCH

Oyster-veneering in the 17th century. This walnut and marquetry cabinet-on-stand is decorated with “oyster” veneer—thin slices of saplings resembling oyster shells.

techniques used was “oyster” veneering, in which thin slices of saplings were glued onto panels to form decorative patterns (photo right).

Perhaps the golden age of veneer occurred in 18th-century Europe. A typical cabinet or table in the court of Louis XIV, for example, was covered with a layer of ebony veneer. (The French word for cabinetmaking, *ébénisterie*, comes from *ébène*, or ebony.) The veneer served as a background for detailed marquetry of wood, brass, tortoiseshell and other prized materials. Highly sculptured, gilt-bronze fittings completed the ornate effect. We may find this overwhelming today, but at a time when society wore dazzling costumes, and rooms blazed with ornament, veneer was the Baroque equivalent of 3-D color video.

Although tastes changed through the 18th and 19th centuries, veneer (especially European walnut and New World mahogany) remained a constant. In Europe and America, George Hepplewhite and Thomas Sheraton used



Bottom photo, this page: Christie's London



MYRTLE BURL

Veneer made it possible. One of veneer's greatest exponents, Jacques-Emile Ruhlmann, used amboyna burl veneer, ivory and shark-skin to stunning effect in this 1919 desk (left).

veneer on expansive panels, drawer fronts and table legs, as well as on clocks and mirror frames. Veneer offered a visual appeal otherwise difficult or impossible to achieve; some pieces, for example, were built of solid mahogany, then veneered in mahogany to yield the desired figure (photo right).

VENEER AND THE MASS MARKET

The Industrial Revolution brought with it new technology, which, for veneer, meant escape from the ancient process of hand sawing the layer of wood from the log. In the early 1800s, machine sawing of veneer was introduced, rapidly followed by machines that sliced veneers from a steamed log and then by huge lathes that peeled veneer from a rotating log, as though unwinding a roll of paper towels.

The new, inexpensive veneers came just in time to be used on the factory furniture that evoked the scorn of Oliver Wendell Holmes and other crit-

ics. Charles Dickens sneered at the mass-produced furniture of the time. In *Our Mutual Friend*, written in 1864, Dickens ridiculed the household of Mr. and Mrs. Veneering: "What was observable in the furniture, was observable in the Veneerings—the surface smelt a little too much of the workshop and was a trifle sticky."

As the Arts and Crafts ideals of William Morris and others took root later in the 19th century, solid-wood furniture of straightforward design and sound joinery was championed over veneer. But a high-end market for veneered work continued into the 20th century, and much of the supply came from France, where many small workshops maintained the skills inherited from the *ébénistes* of old (photo above).

VENEER AND THE MODERN CRAFTSMAN

Today veneer is used on both the finest and the cheapest furniture. By some estimates, as much as 80 percent of today's wood furniture is manufac-



Mahogany veneer over mahogany. This circa 1770 Philadelphia chest-on-chest attributed to Thomas Affleck is a combination of solid mahogany and mahogany veneer.



MAPLE BURL



CARPATHIAN ELM BURL



OAK BURL

tured, at least in part, with veneer. In North America alone, more than 5-billion square feet of hardwood and decorative softwood veneer is sliced every year (with enough glue, this much veneer could cover Columbus, Ohio, or about 180 square miles).

Veneer has long had a prominent place in large-scale furniture manufacturing, but new devices, such as the vacuum press, have also made it easier for a craftsman to use veneer. In the past, veneer had to be glued onto substrates with massive clamping mechanisms, or “hammered” into place with squeegeelike veneer hammers, which pressed the veneer down and squeezed out excess glue. Clamping and hammering are still done today, but vacuum veneering—in which the veneer is glued to the substrate by placing the assembly in a plastic bag and pumping the air out of the bag—is becoming increasingly popular. Veneers can be molded into an almost endless variety of shapes with relative ease using a vacuum press.

Strides also have been made in the quality of substrates, veneers and glues. Plywood and various engineered woods, such as medium-density fiberboard (MDF), are dimensionally stable substrates, allowing mills to slice ve-

neer ever thinner to get more yield out of logs. Today’s mills can slice paper-thin veneers. Thicknesses usually range from $\frac{1}{32}$ inch to $\frac{1}{50}$ inch, although mills can slice veneer as thin as $\frac{1}{200}$ inch.

WHY USE VENEER?

Glued atop a stable substrate like plywood or MDF, veneer offers almost



Veneered construction shines. This table by Steve Turino, made of curly maple veneer, solid pearwood and ebony inlay, highlights veneer’s greatest asset—design freedom.



IMBUYA BURL



Veneered panels are stable. In this Macassar ebony credenza by Darryl Keil (bottom photo), the doors are as snug as a piston without the danger of sticking or rubbing.

It doesn't have to shout. Despite all the design possibilities, veneer doesn't always draw attention to itself, as in this jarrah and mahogany credenza by Paul Harrell (top photo).

limitless design possibilities because it solves the furniture maker's most vexing problem—wood movement. Like a hard, heavy sponge, solid wood swells and shrinks with changing moisture, making doors stick and panels bulge and cup. Introduce curved surfaces to the design, and the wood-movement problems multiply. Where lightness, strength, flexibility and stability are im-

portant, veneered construction shines (photos below and on the facing page).

Even when a design is possible with solid lumber, making curved parts that display the desired grain and figure often entails a shameful waste of material. The characteristics of the wood are essential design components, and many of the most desirable woods are unavailable or wildly expensive in solid form. The solution is to either forego these wonders of nature or use veneer.

Veneer has its drawbacks, however. It's a thin layer, after all, and it won't grow back like a skinned knee if it gets damaged. With modern glues, veneer may not "scale off" too readily, as Holmes suggests, but there's always the danger of the substrate poking through (when sanding the surface of a finished panel, for example). But all materials—solid wood among them—have their pros and cons.

Imaginatively designed and carefully made, veneered work has inimitable appeal and will stand the test of time. Today, Holmes would have to admit that what's underneath the veneer can be valid—and the surface is not only beautiful but also glued for keeps. ■

Abram Loft is a writer and woodworking enthusiast living in Rochester, N.Y.

White Ash Sideboard

BY TERRY MOORE



Rope figure inspires design. The doors of this ash sideboard were made of an unusually figured board the author stumbled across in a stack of lumber.

Occasionally, if you happen to be in the right place at the right time, you may stumble upon an unusual piece of wood. This happened to me as I unloaded a stack of rather generic-looking white ash I had ordered from a lumber dealer.

There, in the pile of nondescript lumber, was a board—11 inches wide and 8 feet long—with unusual markings. Down the center of the board, which was the inspiration for this piece, ran some light brown heartwood that resembled a twisted hemp rope. Right away I knew that this single board would become two panels in the doors of the sideboard, making them the focal points of the piece.

I set each of the two colorful doors on both sides of a central bank of cherry drawers designed for silverware storage. Each drawer front has an interesting smattering of color in it but less dramatic than in the door panels. Against the uncluttered design of the piece and the plain white ash of the rest of the cabinet, the figure on the doors and the drawers creates an understated, harmonious interplay.

In keeping with the clean lines of this design, I did not want showy joinery or visible dividers between each drawer. This took a little more forethought, but concealing the dividers produced an uncluttered appearance that belied the complicated construction.

After stripping away all flamboyant decoration and other visual elements



A clean look. The drawer faces overhang the dividers, giving the cabinet face fewer competing elements. The drawer pulls are rosewood.

to highlight the beauty of the special wood in the panels, I realized I needed a little something extra to contrast with the starkness of the ash. The rosewood pulls add color and visual texture to the design but in no way detract from the primary focal point of the rope twist in the door panels.

As in my case, fortune or serendipity sometimes puts us in possession of special materials. I think how we incorporate these materials into our work is an intimate glimpse into who we are as designers and craftspeople. ■

SPECIFICATIONS

DIMENSIONS

48 in. wide, 18 in. deep and 36 in. high.

MATERIALS

White ash, Brazilian rosewood and cherry.

FINISH

Lacquer.

Narra Bed with Exposed Joinery



BY DAVID FAY

this bed-frame design illustrates one of the central ideas of my work: I integrate construction with the intrinsic beauty of the wood to build simple and elegant furniture. The bed was built using exposed joinery to emphasize its construction. I selected each piece of lumber for its unique color and figure, giving careful consideration to its location in the bed frame.

I utilized a traditional Japanese architectural woodworking joint, called a *sage-kama*, to connect the side rails to the posts of the bed. The *sage-kama* has been used for hundreds of years to stabilize structures and help them resist racking, without resorting to the diagonal bracing more common in western construction. The joint is a through half-dovetail locked in place with a separate wedge. It can be dis-

mantled by tapping out the wedge and slipping the tenon out of the mortise, which enables the two side rails of the bed to be removed from the headboard and the footboard.

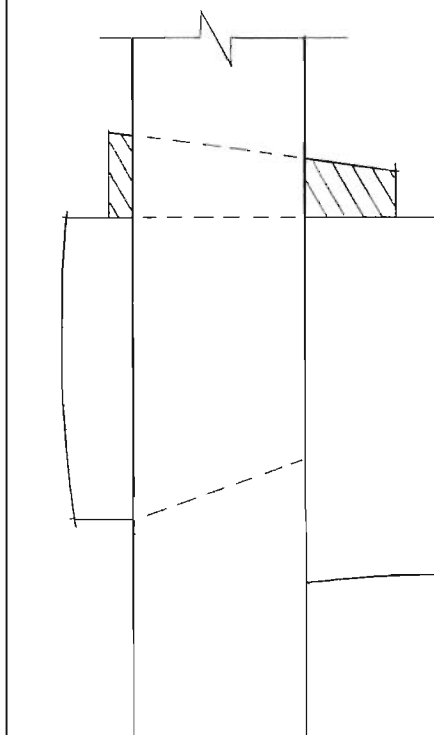
The customer selected narra wood for the bed frame because of its rich, vibrant color tones. To emphasize the joinery details, I used gaboon ebony for the pegs and the wedges. I book-matched the headboard and the foot-



Book-matched bed frame. The headboard and the footboard were each book-matched; the rails and the posts were cut from the same planks to maintain consistent figure and tone.

SAGE-KAMA JOINT

The through half-dovetail joint has been used in Japanese architecture for hundreds of years to resist lateral racking without resorting to traditional western diagonal bracing.



board to give them a symmetry of wood figure and color tones. I also matched the posts and the rails by milling them out of the same planks. And finally, I cut a gentle curve in each piece to lighten the bed's design visually. I hope the simplicity of design helps focus attention on the unique woods and the craft of the integrated joinery techniques. ■

SPECIFICATIONS

DIMENSIONS

87½ in. long, 67½ in. wide, with 43-in. high headboard and 37-in. high footboard.

MATERIALS

Narra and gaboon ebony.

FINISH

Livos Dubno primer oil.



Japanese joinery. Sage-kama joints hold the rails to the headboard and footboard posts. The joint prevents lateral racking.

American Side Tables

BY COLIN REID



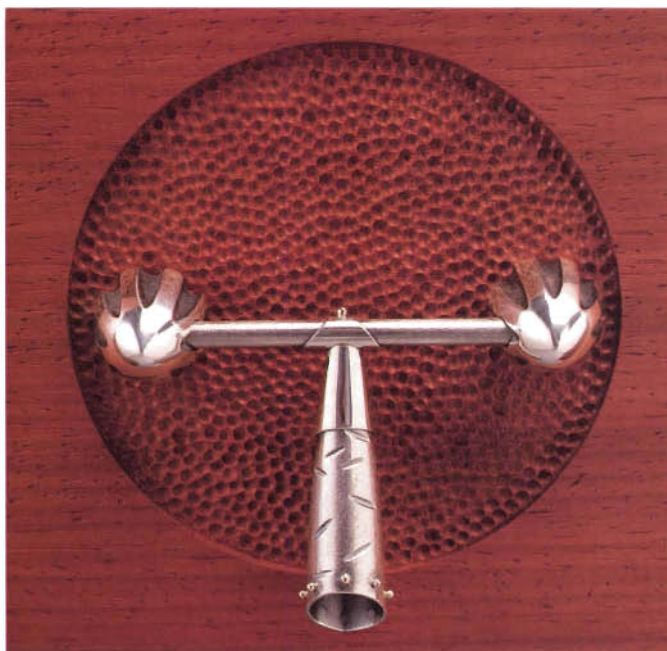
Sculptured forms give mass and life. The author blends traditional furniture design with primitive forms and textures found in nature.

my primary focus was on the legs of the pieces as the major design element. Standing the legs slightly away from the carcass and exaggerating their proportions give the legs an independence from the rest of the piece. Instead of just being extensions of the carcass, the legs help give each piece a sense of animation and movement with a lifelike stance.

With these pieces, I textured large areas to contrast with the surrounding polished surfaces. The textured surfaces, which I achieved with a ball grinder on an electric rotary tool, provide contrast in several ways. Visually it is dynamic yet subtle: The contrast changes with light and viewing angle. Both surfaces invite being touched, and at the same time provide a sharp tactile contrast. Finally, there is an emotional contrast, in particular in the legs. Laboriously shaped, hand fluted and polished, the lower leg then erodes away as if carelessly exposed to the elements.

It was important for these pieces to be as monochromatic as possible, with little distraction from tone or figure changes. Padauk, very consistent from board to board in color and grain, worked well for this. Laminations are invisible, and changes in grain direction are barely noticeable, which allows the textured surfaces to be the primary source of decoration and contrast. I varied the tone only with the curly maple tops, which I blackened with shoe dye. I have since changed the tops to blackened lacewood because the dye colored more consistently on lacewood than on the maple.

The tables, designed for the bedside, were influenced by both the Art Deco period and contemporary furniture makers. The squat, sometimes exaggerated proportions add a somewhat comical posture to the pieces without overwhelming the elegance of the other elements. ■



Texture is the primary decoration. Texture gives the carcasses depth, and handmade silver pulls add to the jewellike appearance and the feeling of something precious.

SPECIFICATIONS

DIMENSIONS

17 in. long, 17 in. wide and 24 in. high.

MATERIALS

Padauk, blackened curly maple (later replaced by lacewood) and silver.

FINISH

Tung oil and varnish mix.

Shaker Collector's Cabinet

BY CHRIS BECKSVOORT

Shaker inspired. This 15-drawer collector's cabinet is narrow enough to fit into small spaces, and it exhibits the sparseness and lack of ornamentation of Shaker furniture.



this 15-drawer cabinet was originally built for a collector who wanted "lots of different-sized drawers." It is strongly influenced by Shaker design: lack of molding, graduated flush drawers, mushroom knobs, and the only ornamentation is in the figure of the cherry. Even the size is reminiscent of a dwarf clock built by Brother Benjamin Youngs, Sr.

Its aesthetic simplicity belies its inner complexity. Technically, it is a fairly demanding piece. It has 170 individual parts, with 296 hand-cut dovetails, fully mortised and tenoned telescoping web-frames between the drawers and a flush two-panel back. The back is finished so that the cabinet can be used as a freestanding piece and enjoyed from all sides. The top and all drawer fronts and cabinet sides are cut from one board. There are two secret compartments, and as with all my pieces, I hid a silver dollar from the year of construction somewhere inside.

This is a cabinet built to function smoothly and to last. Potential wood movement is taken into consideration at every stage of construction. The front base inset, for example, follows the grain direction of both sides and the bottom. Each drawer is carefully sized to allow for expansion, no matter what the season or the location. The drawers are fully finished and waxed, and slide smoothly, as if on glides.

All this adds up to a diminutive piece of technical perfection, an interesting cabinet in which to store treasures. ■

SPECIFICATIONS

DIMENSIONS

14 in. wide, 15 in. deep and 50 in. high.

MATERIALS

Black cherry.

FINISH

Linseed oil.



Outer plainness, inner complexity.

This simple-looking cabinet has 170 pieces, put together with 296 hand-cut dovetail joints. The drawers are carefully sized to accommodate seasonal wood movement.



All-around beauty. The flush two-panel back is finished so that the cabinet can be used as a freestanding piece.



Queen Anne Armchair in the Philadelphia Style

BY STEVEN LASH



A high-style, curvilinear armchair. Virtually every surface is curved on this reproduction of an 18th-century Philadelphia-style armchair (left). The carvings for both chairs (above) had to be done at the same time to ensure that the chairs would be identical.

*m*y search for the perfect armchairs to grace the ends of my Queen Anne-style dining-room table led me to a magnificent but little-known collection of furniture in Washington, D.C.—the Diplomatic Reception Rooms at the State Department. Once a disastrous federal office space decorated like a 1950s motel, the Diplomatic Reception Rooms today are home to one of the finest collections of American decorative arts from 1740 to 1825.

During a visit there a few years ago, I was intrigued by a splendid walnut Queen Anne armchair that epitomized the most fashionable Philadelphia style of the mid-18th century. The original was designed so that virtually every line in every plane is curved. It has a rounded, heavy “bell” or “compass” seat, shell carvings on the knees, and the front legs end in trifid (three-toed) feet. The vase-shaped splat is crotch walnut, and the crest rail is carved with



Reproduction of a national treasure. The original, above, is on display in the Diplomatic Reception Rooms of the U.S. State Department in Washington, D.C.

Armrests lowered and strengthened. The author changed the original design by lowering the armrests to fit under his dining-room table, and the joinery was modified slightly to add strength.

a central webbed shell flanked by four scrolled volutes. The volutes are also repeated at the ends of the carved arms.

I made full-sized patterns and carved each individual part for both armchairs at the same time. I made slight modifications in the construction, such as lowering the arms so that they would fit under the top of my dining-room

table. I also strengthened some of the arm joinery (the only weak spot in the superbly designed original).

I worked on the chairs on and off for about two and a half years. Inspired by a priceless antique, they have now become personal treasures. ■



SPECIFICATIONS

DIMENSIONS

31½ in. wide, 21¾ in. deep and 42⅞ in. high.

MATERIALS

Walnut with English silk damask upholstery.

FINISH

Shellac and wax.

Dining Table with Soft Edges

BY R. JOSEPH RANSIL



Rounded edges and a single taper make a sleek leg. The author designed legs that are straight on three sides and tapered on the fourth. Then he rounded over the legs, continuing the table's theme of rectilinear forms softened with curves.

SPECIFICATIONS

DIMENSIONS

63 in. long (104 in. with two leaves inserted), 43 in. wide and 28 in. high.

MATERIALS

Walnut.

FINISH

Sam Maloof's finish: a mixture of $\frac{1}{3}$ tung oil, $\frac{1}{3}$ boiled linseed oil and $\frac{1}{3}$ polyurethane varnish.

a lot of contemporary furniture is stripped bare: all straight lines, crisp edges and sharp corners. I wanted a functional table that would be at home with other spare, contemporary furnishings, but I didn't want that harsh rigidity. In this table, I came up with something I think of as a soft design.

Seen from above, the table's top has rounded corners and sweeping curves along its sides. The theme continues in the cross section of the top. The upper corner of the edge is rounded, and the bottom corner is hand-worked to a curve that blends into a long bevel.

I made the table with straight aprons. The way the top bowed out made it appear that the aprons were narrower in the middle. I liked the effect and wished it were more pronounced. I made little flared pieces and taped them onto the bottom edges of the aprons at each end to see what they looked like. They gave the design a noticeable boost. Oh well, next time I build a table like this, I'll know just how to shape the aprons. ■

Japanese-Style Console

BY ERIC L. TOLLESON



Garden scene in gold leaf. Inspired by a Japanese calendar, the author painted a plum tree on the front of this cabinet in gold leaf. The door trim, made to look like Japanese shoji, is padauk.

*W*hen I saw a photo of exceptional lacquer boxes in a calendar from a Japanese bank, a plum-tree scene caught my eye. I have always been fascinated with the Japanese decorative style, particularly on entrance gates, on screens and in gardens, and I thought I could reshape the plum tree for the front of this console.

The slate top and legs resemble a stylized Japanese entrance gate. I wanted the doors of the console to be like shoji screens opening on an outdoor garden. I thought the plum tree in gold

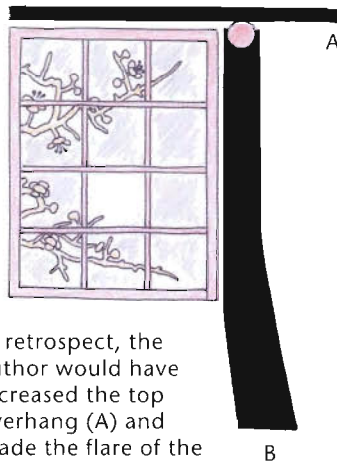
leaf would catch a person's eye, especially in subdued light.

The case is plywood with linen decoupage. I glued the linen onto both the inside and outside of the plywood case and then painted it with a gray metallic lacquer, which gave the surface an interesting combination of texture and finish (see *How They Did It*, p. 106). I did not cover the doors with linen so that I could leave a smooth surface for the gold-leaf plum-tree pattern. All of the contrasting shoji trim on



Decoupage lends texture. Linen was glued to the plywood sides of the cabinet and then painted with lacquer. The round supports under the top are padauk.

VARIATIONS ON A THEME



In retrospect, the author would have increased the top overhang (A) and made the flare of the leg (B) more dramatic.

the doors and the round supports holding the slate top are padauk. The legs are ebonized ash.

Because of slate's color and texture, I used it for the top (see Sources, p. 110). This particular piece was $\frac{1}{2}$ inch thicker than the normal $\frac{3}{4}$ -inch stock. It's quite heavy, but it also gives the console more visual substance. I had the slate honed, which means it was smoothed but not polished, giving it a more natural texture.

This console was a speculative piece for a gallery, and although it was well-received, it did not sell. In retrospect, I probably would have made a few design changes. I would exaggerate the flare in the legs, and perhaps add more overhang to the top (drawing right).

Even though it didn't sell, I am happy to have it. It's one of the few examples of my work that I get to enjoy in my own home. ■

SPECIFICATIONS

DIMENSIONS

72 in. wide, 20 in. deep and 31 in. high.

MATERIALS

Ash, padauk, maple, birch plywood, linen and slate.

FINISH

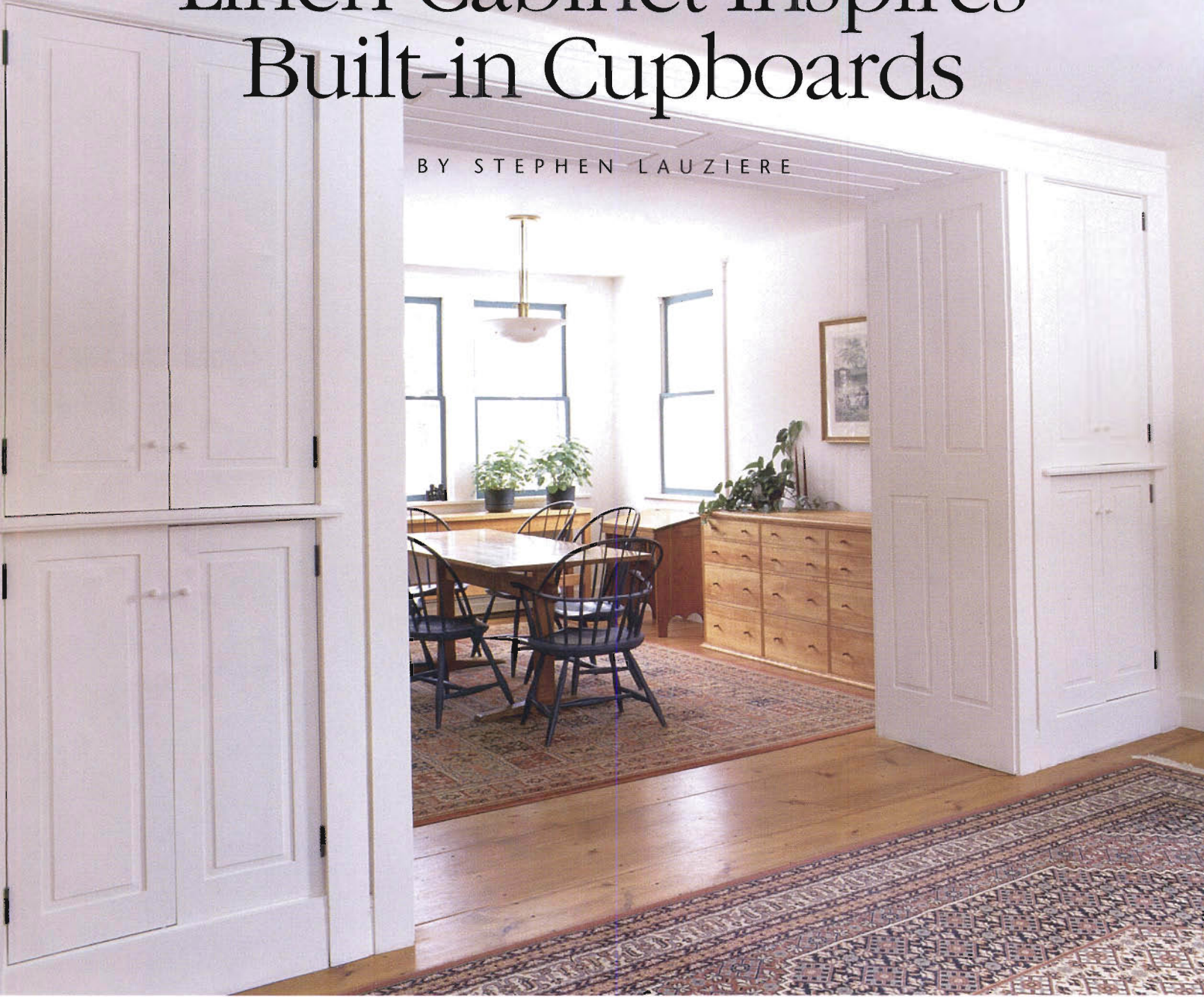
Aniline dye, gold leaf and lacquer.



Thick slate top adds visual weight. In keeping with the garden scene, the slate top was left with a natural honed finish, instead of being polished.

Linen Cabinet Inspires Built-in Cupboards

BY STEPHEN LAUZIÈRE



Built-ins result from a bad break. The owners of this home designed these built-ins after they realized that a fireplace they had planned would have been too expensive.

these built-in cabinets came about after the bank told my wife and me that we didn't have the money to build our house exactly as we had envisioned it: The fireplace we had anticipated had to go.

We realized that eliminating the fireplace, although disappointing, had the benefit of creating space. And because the fireplace was to have been between the living and dining rooms, it also gave us the chance to open up the floor plan.

We put the masonry for the furnace and woodstove flues to one side of the opening, creating a large, open area between the rooms. This added a jog that projected into the space between the rooms from one side. By framing a complementary jog on the other side, we created a pleasing symmetry and extra storage space. Bridging across the two framed structures added to the symmetry and provided support for the floor above.

With the layout done, we derived the details of the built-ins from other elements in the house, including a pine linen cabinet I had built several years earlier (top photo, right). Inspired by the simplicity of early American furniture, this linen cabinet's four single-panel doors are reminiscent of the four-panel doors used throughout the house. The cove molding at the top of the linen cabinet also is found, in an abbreviated form, at the top edge of all the door and window casings.

As a result, when we were working out the design of the built-ins between dining and living rooms, we employed what had now become familiar—raised panels in groups of four topped with cove molding.

The result is a much more open home with rooms clearly designed by their structural elements. In retrospect, the loss of the fireplace greatly enhanced and brightened the space, allowing the outdoors to be seen from anywhere in the house.

As for the lost fireplace? Maybe in a nice little addition someday. ■



The linen cabinet that started it all. The details of this simple cabinet recall early American furniture. The four single-panel doors and the cove moldings were repeated in the living-room built-ins.



Extra storage always helps. One of the cabinets was designed to enclose the flues for the furnace and the woodstove, but it also provides room for storage.

SPECIFICATIONS

DIMENSIONS

Built-ins: 43 in. wide, 31 in. deep and 8 ft. high.

Linen cabinet: 35½ in. wide, 15 in. deep and 36 in. high (upper); 37 in. wide, 15¾ in. deep and 40 in. high (lower).

MATERIALS

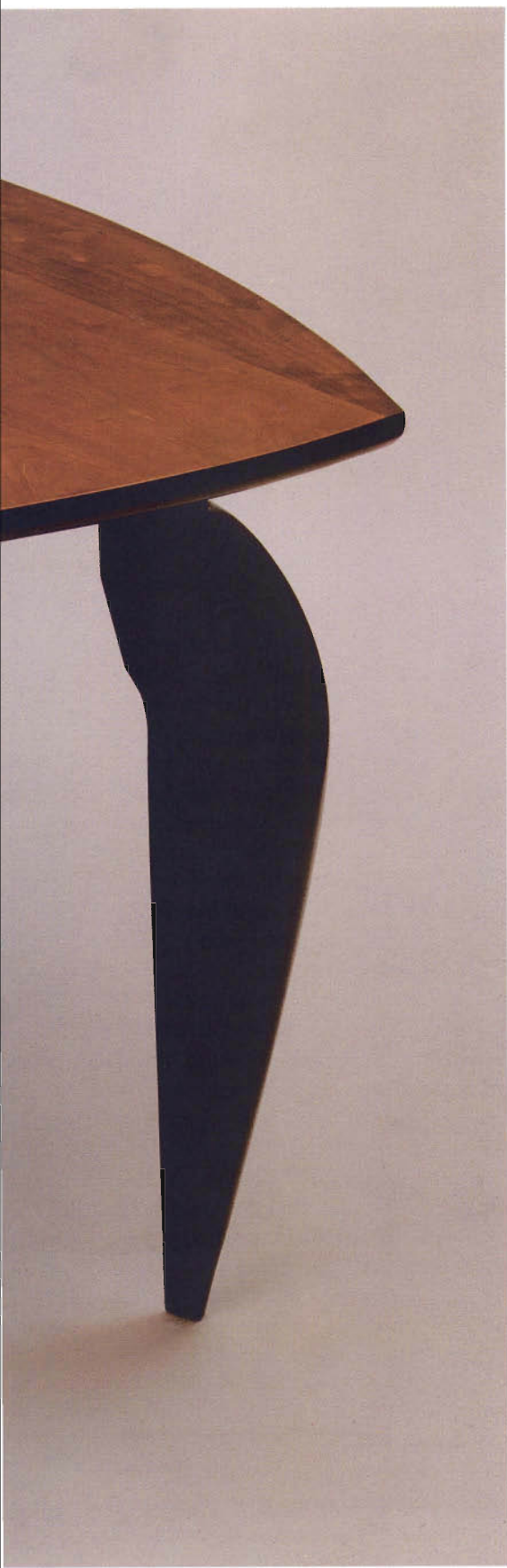
Shop-dried white pine.

FINISH

Paint.



Meal ticket. This dining-room table gave the author a chance to improve her financial situation and stay in furniture-making school.



Dining Table with Painted Legs

BY MAE BROWNING

at the beginning of my second year at the North Bennet Street School, I saw a notice on the bulletin board from a man named Steve Salerno, who wanted a dining-room table built from his own design.

I was broker than broke. I had left school for two months the spring before for a job on Boston's Third Harbor Tunnel as a union carpenter working mostly in concrete-form detail. I worked on the tunnel six nights a week in the winter while attending school full time during the day. My teen-age son was having a lot of trouble in school, and I was at the end of my rope and about ready to quit school. Needless to say, I jumped at the opportunity to make some money and stay in school at the same time.

I met several times with Mr. Salerno. We stuck to his design, except for structural changes with the legs and joints. It was a great experience learning how to deal with a customer and figuring out the costs of labor and materials.

The legs were the most difficult task, and at one point I had four instructors scratching their heads over the leg design and appropriate structural changes. That was fun! In the original design, the legs were too slender to support

the tabletop. And when we settled on the final beetle-leg shape, it required several construction stages—including many different table-saw and bandsaw cuts, as well as rasping, filing and carving—to get it just right. The initial finish, a black stain, didn't work, to Mr. Salerno's eye, because the grain showed. So I painted them with black enamel.

Mr. Salerno was looking to balance a modern look with classic sensibility. Now, two years later, he is still very happy with the table. ■

SPECIFICATIONS

DIMENSIONS

83 in. long, 40 in. wide and 30 in. high.

MATERIALS

Cherry with rock maple legs.

FINISH

Black stain, paint and Lacthane spray.

Stickley Prairie Settle

BY B.A. HARRINGTON



Great Plains in oak. This reproduction of a settle originally made by L. and J.G. Stickley is designed in the Mission style but also evokes the long horizon of the Frank Lloyd Wright-inspired Prairie style.

although L. and J.G. are not the most famous of the Stickley brothers, I think they turned out one of the more elegant and handsome oak pieces in the Mission style. Where Gustav Stickley had the wonderful inlay designs of Harvey Ellis to enhance his work, L. and J.G. turned to Frank Lloyd Wright and the Prairie School architects for inspiration. The design for their Prairie settle was based on the settle in Wright's Robie House in Chicago. It has been suggested that no other piece illustrates so well the way this furniture evokes the prairie, with its long horizon.

I have always been drawn to Mission oak furniture because of the heavy, low, stayed-to-the-earth feel it gives. But I was somewhat hesitant when some friends asked me to build a Prairie settle and to give it a finish that would match their other Arts and Crafts furniture. I came to furniture making with a background in art, intent on designing my own pieces, and I was worried that a reproduction would fail to satisfy my creative impulses. I did, however, want to make something for my friends, and I found the piece very attractive. So I agreed.

When I began milling all that quartersawn white oak and saw the spectacular figure, I realized that my initial worries about finding the project aesthetically unsatisfying had been misplaced. (For details about making the quartersawn posts, see *How They Did It*, p. 106.) The play between the distinct patterns that emerged and the random action of the rays created a surface of excited movement, which I found I could manipulate by strategically arranging the boards. This led me to see the piece in a new way. Its massive flat surfaces combine to act as a canvas for the rays to move around on, illustrating the appropriateness of quartersawn white oak for this simple and spare style of furniture. ■



Rays of the grain. The author found that the large flat surfaces of the Mission-style settle provided a stage for the excited movement of the figure in quartersawn white oak.

SPECIFICATIONS

DIMENSIONS

84 in. long, 37 in. deep and 29 in. high.

MATERIALS

Quartersawn white oak with maple seat frame and Scalamandre fabric.

FINISH

Oil-based stain, thinned and wiped polyurethane and wax.

Classical inspiration, modern result. The author was inspired by an 18th-century French piece, but his cabinet's modern style looks nothing like the original.





An appealing showcase. The convex doors, when open, continue the curve of the inside drawers. The darker-wood stand anchors the cabinet to the floor.

Pearwood Cabinet on Stand

BY JOHN CAMERON

When I was visiting the period rooms in the Boston Museum of Fine Arts, I was intrigued by a small chest on a stand in a Louis XV display. While the overly ornate styling did nothing for me, the unique size of the piece drew me in. It was small for a cabinet but large for a jewelry chest. It stood out on its own in the center of the room.

My cabinet of Swiss pearwood loosely reinterpreted the period piece but in a modern light. It looks nothing like the museum piece, but it retains the odd size—not too big and not too

small. I also made both the front and the rear convex to allow the cabinet to stand away from a wall, if desired.

The upper cabinet was made from a calm, light-in-color plank that I felt would look great in a piece with smooth, clean lines. The interior is uncluttered, with a gallery of two drawers running in a concave arc along the bottom of the case. The stand was made from the darkest pear I could find to contrast with the top and to hold it firmly to the ground ■

SPECIFICATIONS

DIMENSIONS

14¾ in. wide, 11 in. deep and 43 in. high.

MATERIALS

Swiss pearwood.

FINISH

Thinned shellac and wax.



Ribbed Dining Chairs

BY PHILIPPUS S.
SOLLMAN



*f*or a person with a bad back, sitting on a flat-seated straight-back chair for a couple of hours can spoil what should be a pleasant event. Such painful and all-too-frequent sittings provided me with the motive for designing and constructing a set of dining chairs that would not only be visually appealing but also would provide good support for my hips and lower back.

I have always admired the traditional Windsor chair, with its elegant back, armrests and scooped seat, which securely cradles the user. But I have found it wanting for lower back support.

I decided to design my chair with a back that wraps around the torso and

Shades of Wright and Mackintosh. The white-oak ribs of the chair backs extend almost to the floor, evoking chairs of Charles Rennie Mackintosh and Frank Lloyd Wright.



Unique design, functional reasons. The rungs run diagonally from the front legs to the lower back so that they'll be out of the way. The ribs help support the seat.

bends slightly away from the back. The most pronounced part of the bend supports the arch in the lower back. The deeply scooped seat tilts so that a person's weight shifts rearward, pressing firmly against the chair back.

Armrests have always been appealing to me, so I put them on all of my chairs, which makes a dinner setting appear to be much more democratic. I also like to put my feet under a chair, so I positioned the rungs diagonally, out of the way of swinging feet. Such placement also makes it easier for a person to push the chair away from the table while seated.

The white oak ribs that form the backrest extend beyond the seat toward the floor, slightly reminiscent of chairs designed by Charles Rennie Mackintosh and Frank Lloyd Wright. The rib design enhances the graceful and contemporary curve of the chair back. The ribs also distribute the stress on the back legs and help support the seat at midspan. ■



Windsor look but not engineering. The chair design aesthetically owes much to the Windsor but structurally bears no resemblance.

SPECIFICATIONS

DIMENSIONS

24 in. wide, 22 in. deep and 40 in. high.

MATERIALS

Cherry and white oak.

FINISH

Watco Danish Oil.



Apple Writing Box with Secret Compartments

BY JOHN NESSET

A fallen apple. The author made this box, which includes seven separate pieces and two secret compartments, with a log from an apple tree.

*m*y sister used to sit cross-legged in the middle of her bed and write letters on the fancy cardboard box that came with her perfumed stationery. Afterward, she would put stamps and her pen inside the box and place it nicely on her dresser. Years later, when my daughter developed an interest in let-

ter writing, I used my sister's approach for the idea of a stationery box in wood. The fullest realization of the idea came when a woman requested a writing box with accommodation for her personal journal.

A cover that could stand open but was removable for use as a writing

A writer's secret. The box was made for a woman who kept a journal. It contains two secret compartments inside.



surface seemed essential. Personal writing implies intimacy and secrecy, suggesting a “hingeless-hinge” cover that also concealed how it opened. A pedestal bottom floats the form to give it a shrinelike aura. The bottom also makes the box easy to pick up and gives it a “soft” feel when held in the

lap. While the sides of a jewelry box should flare downward—grounding it and suggesting security—the sides of a writing box should flare upward—inviting the owner to pick it up and hold it in the lap, giving it a sense of flight, like a letter.



Exterior beauty, interior complexity. The author spends considerable time designing the sophisticated interiors of all his boxes. In a maple jewelry box (left), the inside borders are removable. In the walnut writer's box, a slanted bottom provides easy access to paper.



Pie-shaped apple. The through-dovetails joining the corners were cut in book-matched pie shapes that resulted when an apple log was quartersawn.

The cover of the box is slightly recessed so that a sheet of paper will not slide off. Inside, a ridge lifts the edge of the stack of paper to make sheets easily removable and, at the same time, creates a well on the other side to cradle a stack of envelopes.

There are two secret compartments. Access to the space for the writer's journal becomes a ritual of anticipation, and secrecy because finding it requires removal of the pen-and-ink tray, as well as going through the first secret compartment.

The box was made from two halves of an apple log. Apple is not readily available, but someone always seems to want a tree taken down (the log must be halved immediately to pre-

vent deep spiral checking). It is a hard, closed-grain wood with a lovely, soft, rosy complexion that gains a lustrous translucence when quartersawn. Apple is also brittle, unstable and requires patient and thoughtful handling. ■

SPECIFICATIONS

DIMENSIONS

15½ in. wide, 13¼ in. deep and 4 in. high.

MATERIALS

Apple wood.

FINISH

Wax.

Walnut Grandfather Clock

KEN MUNKEL

Focus on the wood, not the works. The author chose a somewhat understated clock movement to make the woodworking the center of attention.



When my parents got the idea that they wanted a grandfather clock, I couldn't help but feel excited. At last I would be able to design something that would be completely my own.

My parents had only a few requests: They wanted the clock made of walnut, and it had to look old yet unique. I believe my mother's words were, "I don't want anyone else to have one like it."

We started out by choosing the clockworks. The idea was to have the visual impact come from the wood, not from the clockworks, so we chose a triple-chime movement (the face, the hands, the pendulum and other mechanical parts) that wasn't too showy. (For information on where to find clock parts, see Sources, p. 110.) When the works arrived, I hung them on the wall, with the clock face at a comfortable height. Then I simply measured to the floor and began working out the design.

Most grandfather clocks have three parts: a top (for the face), a center section (for the pendulum) and a base. Ideally, the top should be smaller than the base to avoid an unstable look. After a few quick measurements, however, I discovered that the top would have to be taller than the base unless I raised the clock face higher, which I did not want to do. I got around this by adding a skirt to the base and rounding off the crown, making it look less top-heavy.

I also made the side panels on the top a little shorter than the side panels on the base, which makes the top look shorter than it is. Finally, to reduce the mass of the piece, I made the center section a little narrower than the base and the top.

I never cared too much for half-round columns that were applied, so I decided to use fully turned columns that would sit in coves on both sides of the lower door. I continued this powerful design element in the quarter-round corners of the base and in the half-round columns framing the clock face.

I occasionally forget that I built this clock, but it makes me feel good to be talking to my folks on the phone and to hear it chiming in the background. ■



Curves lighten the load. To make it seem less top-heavy, the author rounded the top of the clock. The round shape is mirrored in the moldings and in the turned columns.

SPECIFICATIONS

DIMENSIONS

23½ in. wide, 14½ in. deep and
84¾ in. high.

MATERIALS

Walnut and walnut-burl veneers, with
Mason and Sullivan clockworks.

FINISH

Varnish.

Cherry Writing Desk

BY STEVEN COOK



i have always enjoyed making small writing desks, and I keep an eye out for design ideas while perusing antique stores. When I began designing this desk, I actually had in mind something along the line of the typical fall-front secretary.

One thing that bothered me, however, was that the mess on the desk would have to be cleaned up whenever I wanted to close it. For me, that would be a real impediment to either using the desk or closing it. After some thought, I came up with the idea of a sliding writing surface, not only to provide knee room while writing but also to disappear behind doors when not in use. On this desk, the writing surface slides inside the desk, as does the in-

side back, which contains a shelf for business envelopes on the left, a space for computer disks on the right and a tray for pens in between. The entire unit disappears inside the cabinet by means of wood-on-wood slides that are treated with spray-on silicone.

I used frame-and-panel doors and drawers because I wanted a vaguely traditional look that would blend with any decor as opposed to something more striking, which might not have worked with other styles. I originally put a black-lacquer accent above the top drawer, but it divided the upper and lower halves too distinctly. I kept the similar line near the bottom because it helped the base to become a solid statement of its own. ■

SPECIFICATIONS

DIMENSIONS

36 in. long, 18 in. wide and 49 in. high.

MATERIALS

Cherry.

FINISH

Satin lacquer.

A look that will blend in. The author chose cherry because of its warmth and appeal. He made frame-and-panel doors and drawers (left) to help the desk blend with any decor.

An office within reach. The bottom drawer is file size, and the doors are fitted with bent rims for holding paper, letters and other writing materials (right).



Upholstered Bench

BY J.M. SYRON AND BONNIE BISHOFF



*t*his bench started as a whimsical settee. It had four back panels, each containing a carved bear. In passing, someone wondered whether the settee could be made without the back panels. We were intrigued by the idea and began to do some drawings. We narrowed the seat and removed the back panels. Then we took the curves from the front legs and arms and adapted them to the back. The results were surprising. With the back panels gone,

the arms and the legs of the bench became the focal points. The curves were more visible, and the whole piece became more airy and fluid.

Curved legs often are key elements in our seating. It is tricky to get the right swing and the sense of almost animate energy we seek without replaying the classic cabriole curve. To develop the shapes, we usually start with a session where we draw and then redraw over each other's sketch-

Animal grace without the animals. This lively bench developed from a settee adorned with realistic carvings of bears.



es. When we are happy with our design, we move to a full-size drawing and then a mockup to bring the piece to life. The mockup usually includes at least one fully shaped leg. We often let the mockup live in our studio for several months while we look at it, draw on it and get to know it. Having mockups and finished pieces around often leads to new ideas—as when a settee becomes a bench. ■

SPECIFICATIONS

DIMENSIONS

48 in. long, 21 in. deep and 23 in. high.

MATERIALS

Ash and cotton fabric.

FINISH

Aniline dye and lacquer.



Chester County Spice Box

BY STEPHEN LATTA



A symbol of prosperity. Originally used for spices and for storing valuables, spice boxes like this one (left) also became signs of wealth and were displayed prominently in Colonial homes.

When my wife, Laura, and I finally tied the knot, I wanted to commemorate the marriage by making a traditional piece from Chester County, Pennsylvania, where we live. Having a personal history of unfinished projects, something grand like a highboy was out of the question. A spice box,

SPECIFICATIONS	
DIMENSIONS	15 in. wide, 10 in. deep and 19 in. high.
MATERIALS	Walnut, sassafras, holly, aromatic cedar and brass hardware.
FINISH	Shellac.

on the other hand, seemed a little more manageable. So when an order for a spice box came through the shop, I decided to make a second one for us. (In typical fashion, the shop order was done long before ours.)

Spice boxes date back to 17th- and 18th-century England, and they accompanied the colonists to the New World. They were given as wedding or

A personalized gift. Spice boxes often were given as wedding or anniversary gifts and were inlaid with initials and dates.

anniversary gifts and often were personalized by inlaying dates and initials in the doors. Although documented inventories of early boxes show that they did indeed hold spices, their primary use evolved into storing small valuables. The boxes became symbols of wealth and prosperity, often prominently displayed in a parlor.

These boxes have always been favorites of mine, but because we live in Chester County, building one had a special appeal. The majority of spice boxes built in the Delaware Valley were made here, and long after their appeal faded in the rest of the Colonies, Chester County craftsmen continued to build them well into the 18th century. Holly and cedar “line and berry” inlays can be found on other types of Chester County furniture, although the elaborate compass pattern—the series of connecting arcs—was used exclusively on spice-box doors.

I finished this box in time for our third anniversary, and it looked great on the mantel above the fireplace. When we moved to another historic house, the box was too deep for the mantel, but somehow that didn’t seem reason enough not to buy the house. Making a new mantel, by comparison, was no big deal. ■



Made for a single purpose. The owners of Gills Rock Stoneware in Naples, Fla., wanted a small table to display a single piece of pottery in their gallery. The author responded with this table in elm, which complements rather than overwhelms the pottery.

*t*hings get hectic during the summer and fall in Door County, Wisconsin, where I live. Tourists love the area, and my custom furniture business is usually busy at that time of year. So I didn't have much time to spare when Judy and Larry Thoreson asked me to build a small table for their Florida pottery gallery. Although I didn't want a complicated design, I did want a table that would look elegant in a fine gallery.

With this table, I designed as I built rather than drawing things out. This process usually works for me on smaller pieces of furniture. My wife, Beth, suggested that I add some curvature to the legs, and I liked the idea. That was my design starting point. I wanted a delicate look, so I just started at the bandsaw with some scrap and began experimenting. I liked the broad bevel on the outside corner of the leg, and I matched the outward curve at the bottom of the leg with the same shape on the inside corner, so the bottom of the leg sweeps outward slightly.

A Simple Table in Elm

BY CURT WESSEL

SPECIFICATIONS

DIMENSIONS

28 in. long, 12 in. wide and 28 in. high.

MATERIALS

Elm and purpleheart.

FINISH

Tung oil and paste wax.



Simplicity for the apron design meant no complicated edge treatments or moldings—just a curve to provide some visual interest. I used biscuit joints to attach the legs to the aprons, and I reinforced the joints with corner blocks inside. I used traditional joinery where it's needed, but the table is small and will be looked at more than it's used. No one will be kneading dough on it.

For the top I chose wood with nice, straight grain, all from the same plank. The top is screwed to the aprons, and the holes through the top are slotted to allow for seasonal wood movement. Instead of plugging the screw holes with a typical end-grain plug, I used diamond-shaped purpleheart plugs. ■



A diamond, not a square. Diamond-shaped purpleheart plugs cover the screws that attach the top to the table aprons.

Lines are simple and effective. A wide chamfer on the outside of the legs and a delicate curve on the bottom edges of the aprons make up the only ornamentation the table needed.

Cherry Sleigh Bed

BY CHARLES SHACKLETON



a woman visited my workshop one day and asked me to design a sleigh bed, so I picked up a scrap from the floor and made a crude sketch. She said that if I made one exactly like the sketch, she would buy it. It was a happy accident, one that made me wonder where great ideas come from.

I'm sure this is a story you might hear in any shop. Success depends on new ideas, and some of those ideas come about after years of struggle. Other ideas are slight adjustments to old designs, and some, like this one, just pop into one's head at an opportune time.

Of course I needed more than a sketch to go ahead with the bed. I did some research into the form, popular in America during the first half of the 19th century. I found that most contemporary sleigh beds looked as though the manufacturer was trying to save money on wood. I thought mine

SPECIFICATIONS

DIMENSIONS:

100 in. long, 64 in. wide with 45-in. high headboard and 36-in. high footboard.

MATERIALS

Cherry.

FINISH

Oil.

An updated classic. The author's sleigh bed (left) is a modern version of the sleigh beds that were popular during the first half of the 19th century. The beds were modeled after horse-drawn sleighs.

A matching bedside partner. The carved curls on the nightstand (right), a modification of the scrolls found on many original sleigh beds, display handwork and variety.



should be opulent and generous: Because most of my costs are labor, I decided not to skimp on materials.

The tops of the headboard and the footboard are solid cherry, roughed out by machine and then planed by hand in such a way that you can feel

the facets left by the plane. I could have designed the bed with a solid headboard—and customers occasionally ask for that—but this would have given the bed a ponderous look, especially when combined with the huge

carved curl and rounded tops. Also, a successful solid headboard would have required veneer. The slats, on the other hand, are more in keeping with my preference for solid materials shaped and joined by hand. ■

Clisset Chair in Pacific Yew

BY DON WEBER



Seat of honor. Clisset chairs were first recognized beyond their west England birthplace when the Arts and Crafts Movement began celebrating indigenous British crafts.

*W*hen the organizers of a show celebrating woods of the Sierra Nevada asked me to submit a piece of furniture, I briefly considered my Windsor chairs. But I wanted to produce a chair that showed off the use of the pole lathe, a one-man, foot-operated turning device used by itinerant wood turners (called bodgers) of Great Britain. I chose to make a Clisset chair, an English regional style from the west midlands that incorporates a lot of turned parts.

Philip Clisset was a noted ladder-back chairmaker in the mid-1800s. His chair—and by association, his name—entered into design history later in the 19th century, when the Arts and Crafts Movement sought out and celebrated indigenous British crafts. This particular chair has 19 turned parts, all crafted on a pole lathe (for more on the pole lathe, see *How They Did It*, p. 106).

Clisset preferred ash for his ladder-backs, but I chose Pacific yew (for more on Pacific yew, see *Sources*, p. 110). It has a waxy feel and is a lovely wood to work because it is very flexible. Its peachy color verges on purple and finishes to a beautiful luster. ■

Pegged-leg chair. The stretchers of this mid-19th-century British chair are inserted in sockets in the legs, then pegged for a long-lasting joint.



SPECIFICATIONS

DIMENSIONS

17 in. wide, 16 in. deep and 32 in. high.

MATERIALS

Pacific yew.

FINISH

Tung oil and paste wax.

Classic chair, traditional methods. This Clisset chair has 19 turned pieces, all made by the author with a simple but difficult to master pole lathe.



Tambour texture.
Imitation tambours
at the top of the
cabinet and above
the drawers help pull
the composition
together.



Tambour Cabinets

BY WILLIAM TURNER



Tamboured companion. Vertical tambours carried straight through keep this small cabinet from looking squat and blocky.

these two pieces were designed to live side by side. The taller serves as a cabinet for stereo components, with storage for tapes, records and related equipment, and the companion piece provides a stand for a television and storage below. The starting point for their design was my decision to curve the fronts. A bowed front adds grace and fullness to a piece and keeps a large cabinet from appearing blocky. I chose a soft curve—a 72-inch radius—enough to attract the eye but not enough to jar it.

After choosing to bow the fronts, I decided to build tambour doors. This seemed a simpler solution than fash-

ioning curved doors. Simpler or not, the tambours wound up defining the cabinets, providing a pleasant contrast between textured and flat surfaces, matte and glossy ones.

At the front corners of the cabinets, I used fluted quarter columns to make the transition from the curved front to the flat sides less abrupt. On both cabinets I played with the tambour theme by using strips of heat-shaded veneer to create friezes of faux tambours. Both cabinets have a strip of them just below the top molding, and the taller cabinet has one just above the drawers, as well. ■

SPECIFICATIONS

DIMENSIONS

Tall cabinet: 40 in. wide, 19 in. deep and 77 in. high.

Short cabinet: 33½ in. wide, 22 in. deep and 31½ in. high.

MATERIALS

Black walnut with poplar secondary wood.

FINISH

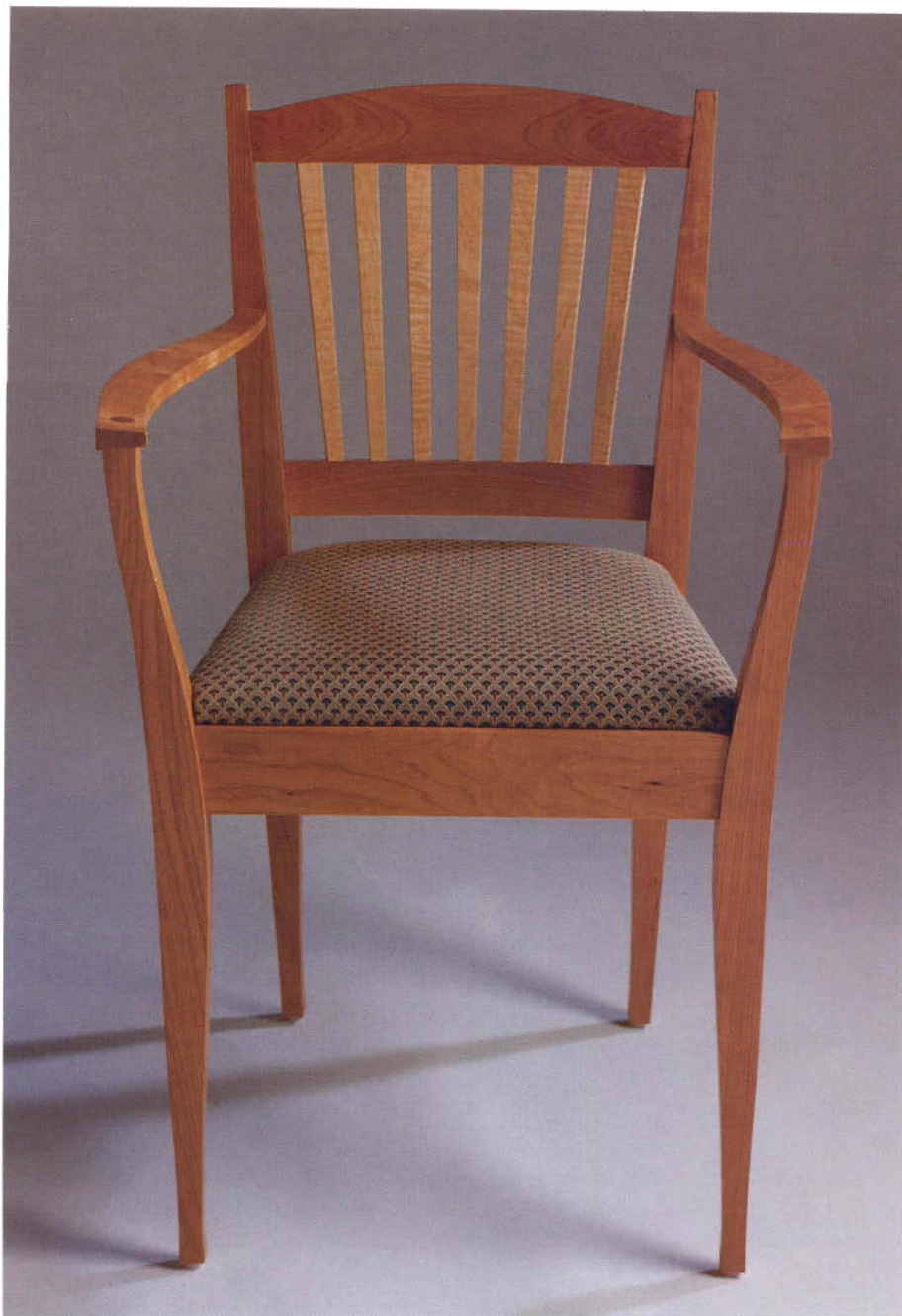
Rubbed mixture of oil and varnish.



Floor show. The theme for this set is the author's variation on a Shaker leg but with gentle curves added at top and bottom.

Tapered and Curved Legs on a Dining Set

BY KEVIN KOPIL



Completing the set. The author rounded out his dining set with matching armchairs.

SPECIFICATIONS

DIMENSIONS

Table: 40 in. wide, 80 in. long (extends to 116 in.) and 30 in. high.

Side chair: 20 in. wide, 15 in. deep and 52 in. high.

Armchair: 20 in. wide, 18 in. deep and 35 in. high.

MATERIALS

Cherry, ebonized cherry and woven wool fabric.

FINISH

Aniline dye and precatalyzed lacquer.

*i*ve always been impressed by the simplicity of Shaker designs. My tapered-leg dining set came about from a desire to do something Shaker—with a twist. In 1991, after 15 years of working in wood, I decided to develop a line of furniture, so I played around with different sketches while trying to keep a simple, elegant look. Shaker legs, in general, are wide at the top and narrow at the bot-

tom. I introduced a gentle curve at the top and made the bottom more narrow than usual. In its refined version, the leg flares out again very subtly at the base.

I wanted something unique. When I came up with this design, I felt that it was still simple while also delicate and elegant. The first piece was a nightstand, which was well-received, and a dining table grew out of it, with the same ta-

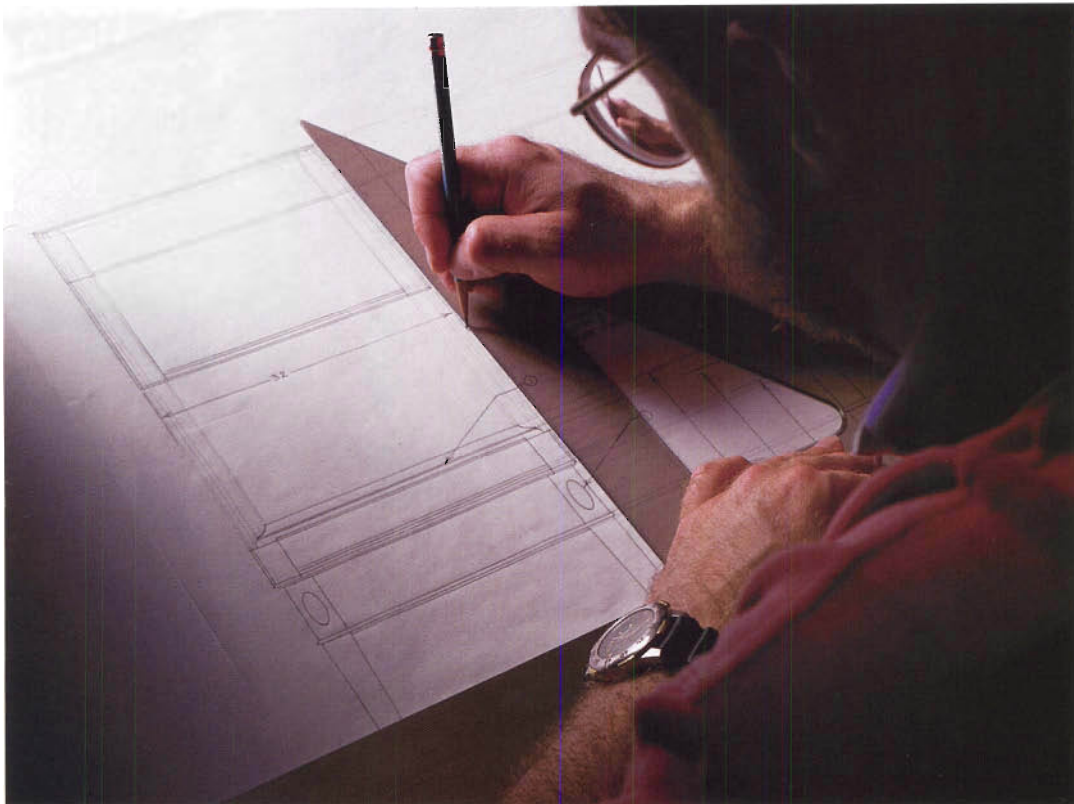
pered legs. The dining table was so well-received that I decided to incorporate the same leg into side chairs to go with the table. I subsequently developed a desk, a settee and the armchair shown above—with the same leg design.

These pieces are cherry with ebony inlays. Cherry machines nicely and darkens over time with a nice, rich patina. ■

Orthographic Projection

This basic drafting technique will help you visualize your ideas and transfer them to paper

BY PETER R. JENSEN



how frequently do you have to stop your work on a piece of furniture, scratch your head, go back to some sketches you scribbled on the back of a piece of sandpaper and try to figure out what to do next? The roadblock may be a dimension that's off, a joint that hasn't been thought through or an idea for a detail left unresolved.

Although it often seems tedious, the process of drawing and refining plans on paper before building eases the

way from a good idea to a sensible design and, ultimately, to a pleasing, thoughtful piece of furniture.

Orthographic projection—a method for drawing several views of an object simultaneously—eliminates the need for lots of measuring. It's a quick and painless drafting technique that can help you visualize your ideas and work out construction details. Because it forces you to build your project on paper before cutting your first board,

orthographic projection also eliminates a lot of head-scratching later on.

VISUALIZING YOUR FURNITURE

To make an orthographic drawing, begin by visualizing different views of an object. The idea is to break the object down into separate surfaces, or planes of projection. Each surface of a three-dimensional object parallel to the planes of the box is represented in its true scale (drawing, facing page). An

angled surface, such as the top of the writing desk, would appear foreshortened, or narrower than it actually is in the top view. For accurate dimensions of angled surfaces, you sometimes have to draw an additional, or auxiliary, view (top drawing, p. 91).

For many objects, three principal views are necessary: the top view, the front view and the view of one side (drawing, p. 90). Usually these three views will convey enough information to build the piece of furniture. If additional views provide needed clarity, you can always include them.

SETTING UP THE DRAWING

Before starting an orthographic projection of an object, make a few sketches, establish some rough dimensions and then choose a suitable scale. If you use a 1 inch = 1 foot scale, you may be able to draw three views of a piece of furniture on one 8½x11 sheet of paper, but the drawings will be small. If you are working on larger paper, use a larger scale, which will give you the opportunity to add greater detail to your drawing.

Once you've got some sketches and an idea of the overall dimensions, choose a view with the most information. For many pieces of furniture, the front view is a good place to start. In the case of the writing desk, the front view provides the overall height and width, the profile of the legs and the height of the front apron. It also shows the shape and position of the inlays, as well as the profile of the back rail.

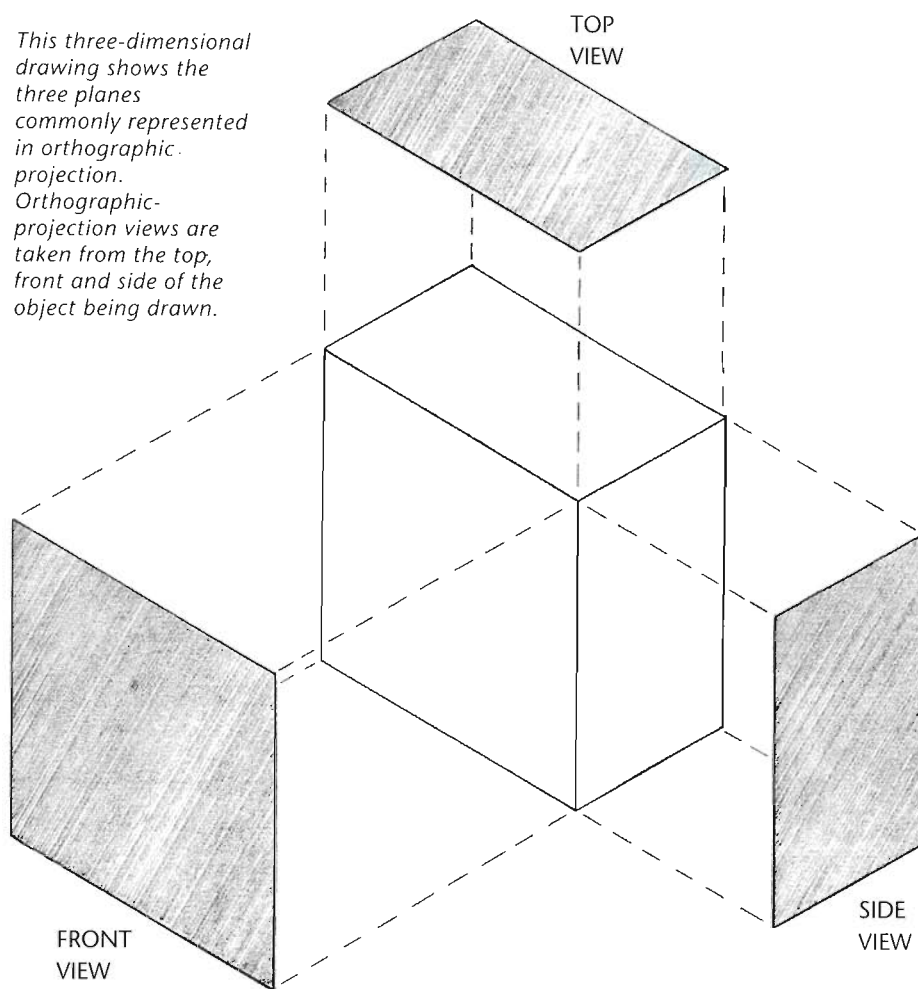
MOVING BETWEEN VIEWS

There is critical information that does not show up in the front view (such as the depth of the piece and the slant of the top). This means you will have to project lines vertically and horizontally to draw other views and details.

First, draw the front view in the lower left corner of your paper, starting with a baseline to represent the floor. (Just draw the outline of the piece for now; you can add more details lat-

THREE PROJECTED PLANES

This three-dimensional drawing shows the three planes commonly represented in orthographic projection. Orthographic projection views are taken from the top, front and side of the object being drawn.



er). To move from the front view to the top view, draw vertical lines from the baseline using a square or a triangle. Position these lines at the outside edge of the piece to project the overall length, then measure the depth of the top along those vertical lines. (Remember, in the top view of the desk, the slanted desktop is going to appear foreshortened.)

SIDE VIEW DRAWS ITSELF

To get important construction information, you will need to draw the side view by projecting lines from both front and top views. Transferring dimensions from the front view to the side view is easy—just project horizontal lines. But moving from the top view

to the side view is a little trickier and will require a 45° construction line.

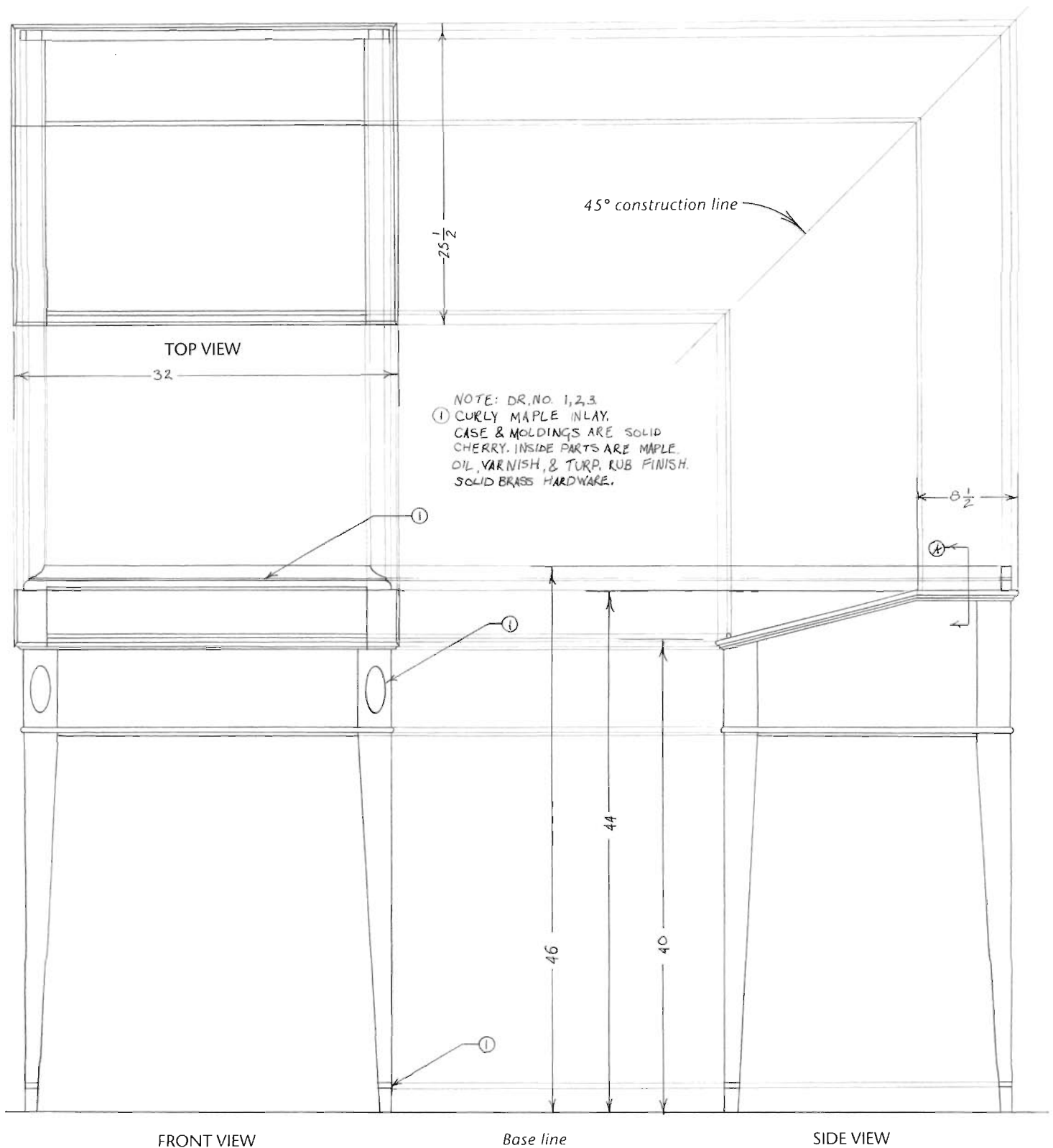
With the top and front views drawn, use a 45° triangle to make the construction line (one leg of the triangle should be parallel with the baseline). The construction line should be drawn from the upper right corner of the front view and to the right of the top view. (You may have to extend the baseline so that the side view will fit.) With the construction line drawn, you can easily project points horizontally from the top view and then down to the side view and vice versa, without redundant measuring. These lines will give you the depth of your piece.

As you move between drawings, you can add detail to any one of the views

THREE-VIEW ORTHOGRAPHIC PROJECTION

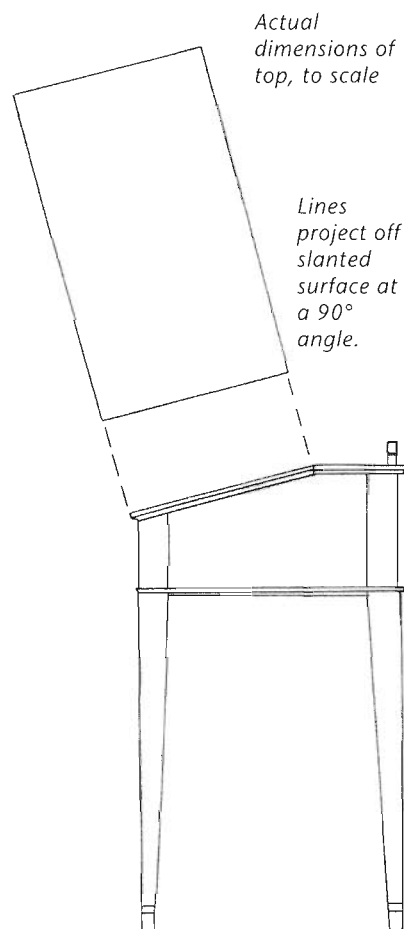
This desk, designed by Dennis Saindon of Deer Isle, Maine, was drawn orthographically by starting with the front view, then projecting the dimensions up to the top view and over to the side

view using the 45° construction line. You can move back and forth between the drawings, adding ever greater detail to any one view, and then projecting the lines to the remaining views.



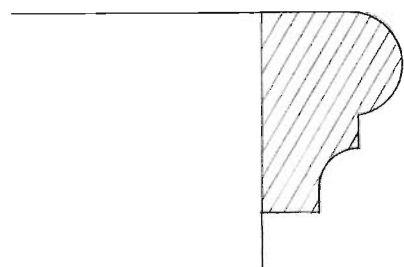
AUXILIARY DRAWING OF TOP

Any part of the furniture piece at an angle to its picture plane will be out of scale but can be drawn true to scale as shown.



SECTION DRAWING

Full-scale section of edge molding adds clarity.



The finished product. After making several three-view drawings of this desk, maker Dennis Saindon settled on the final design.

and then, where necessary, transfer those details to other views. For example, the side view yields the best picture of the slanted desktop. You can make adjustments to the angle in the side view and then transfer those changes by projecting lines back to the front view and up to the 45° line, and over to the top view.

You will find that in many rectilinear pieces of furniture, two views—front and side—can be sufficient. Pieces like chairs, on the other hand, usually require three or more views, plus section and auxiliary views.

SECTIONS AND AUXILIARIES

Now that you have the basic outline of the piece, you are free to add any level of detail. You can use broken lines to reveal hidden parts (to show the layout of an apron tenon, for example). If you want more details, you can make section drawings, which show cross sections. In situations where construction details cannot be clearly shown in exterior views, one or more section drawings—done larger in scale for clarity—are helpful and often necessary (bottom drawing, left).

In pieces like this writing desk, auxiliary drawings also may be useful. The slanted top of the desk would appear foreshortened in the top and front

view of the piece. The side view shows the true width of the slanted top, but what if there were an inlaid pattern? The only way to determine its exact shape would be to make an auxiliary drawing by projecting the desk's writing surface at a 90° angle from the inclined surface, as it appears in the side view (top drawing, left).

ADDING ANOTHER DIMENSION

Orthographic projection not only is an easy way to render two-dimensional drawings, but it's also a good skill to master before attempting more challenging techniques, such as drawing objects in perspective. Setting up a scale drawing, moving between the three different views and using auxiliary and section drawings will improve your drawing and prepare you for more involved illustrations.

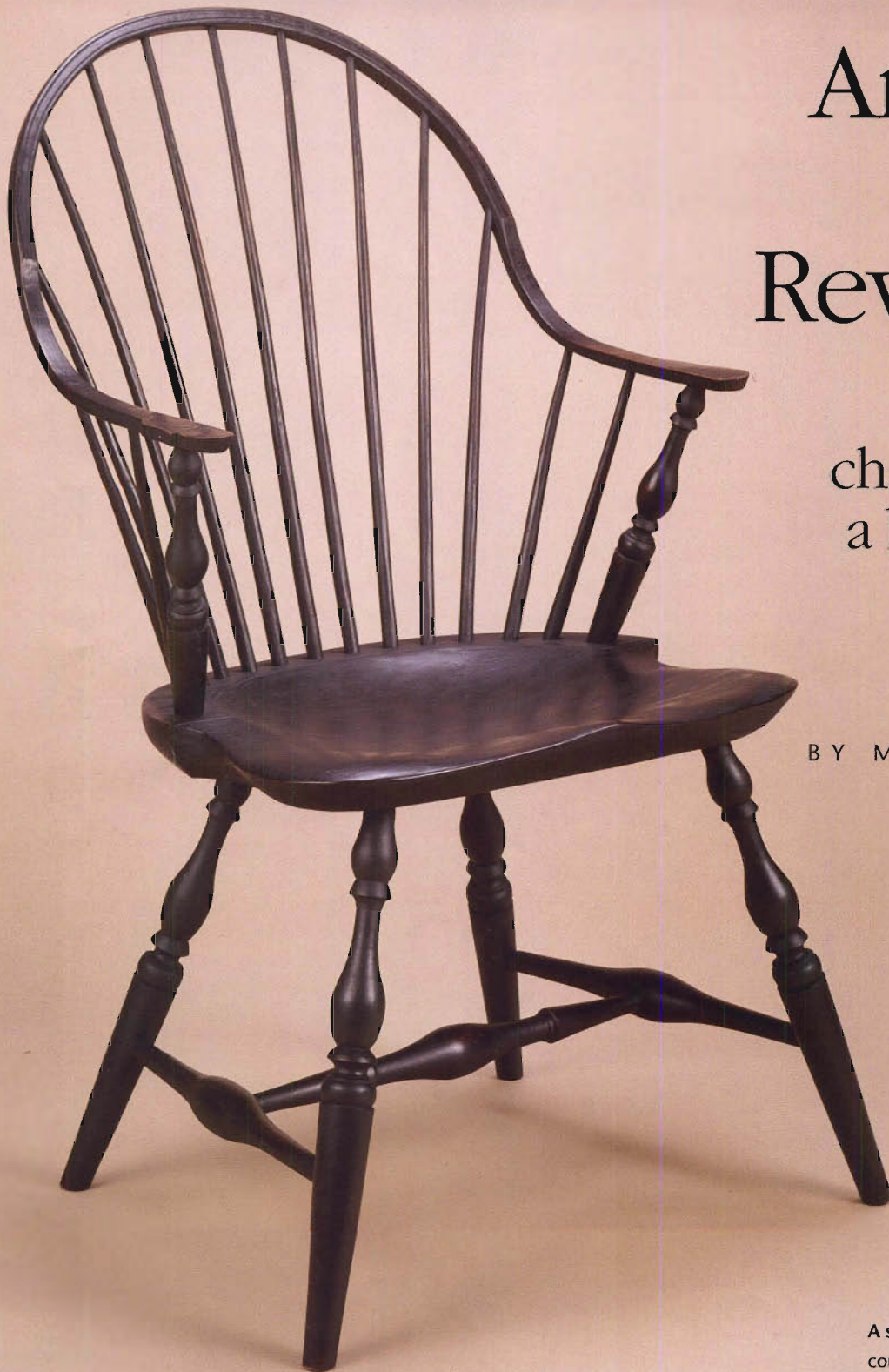
By expanding your drafting skills, you improve your ability to visualize and communicate your design ideas. Developing construction details and assembly sequences in your mind and on paper before starting your next project will save you construction time and ensure that your finished product is a true realization of your ideas. ■

Peter R. Jensen is woodworker and high-school drafting teacher. He lives in West Addison, Vt.

The American Chair Revolution

Colonial
chairmakers built
a better Windsor

BY MARIO RODRIGUEZ



A star among chairs. The grace of the continuous-arm Windsor, one of several uniquely American Windsor chairs, is one reason why Windsors have remained popular for 260 years.

Soon after Windsor chairs first appeared in King George's England almost 300 years ago, the design made its way to the Colonies. Despite its English origins, the chair reached its greatest popularity in America, where Colonial chairmakers discarded the English Windsor motif just as politicians in the Colonies revolted against the King's tyranny. The chair quickly took on new forms and became quintessentially American: It was a democratic chair at home in the kitchen or the living room, a farmhouse or a courthouse. It was lightweight, comfortable, relatively inexpensive and quick to make.

George Washington ordered Windsors for the porch of Mount Vernon. Thomas Jefferson is said to have written a draft of the Declaration of Independence while seated in a Windsor. When the Declaration was signed in Philadelphia's Independence Hall on July 4, 1776, the assembly sat in Windsors. And Washington's officers sat in Windsors at Fraunces Tavern in New York City to listen to his farewell speech.

In the 70 years after the chair's introduction in the Colonies around 1730, several important stylistic changes exploded old perceptions of the Windsor. These designs reflected the imagination of the American craftsman, as well as the freedom and opportunity that existed in the Colonies.

English Windsors had been characterized by a Prince of Wales pierced backsplat and nearly vertical legs, both of which were changed immediately by American chairmakers. English and American Windsors shared the one quality that defines the form: a thick seat acting as a foundation, with back spindles stuck into the top, and legs plugged into the socketed underside. But a combination of factors unique to America helped the Windsor chair improve and flourish in the Colonies.

ECONOMIC SYSTEM WITHOUT GUILDS

In England, a chairmaker belonged to a guild, which dictated where he could



Comforting the birth of a nation. This Robert Edge Pine painting depicts the signers of the Declaration of Independence seated in Windsors.

Witness to history. George Washington's officers heard his farewell address while seated in Windsors at Fraunces Tavern.



make chairs, what kind and how much he could charge for them. The guild controlled or neutralized competition and thus stifled the initiative and innovation of English craftsmen.

In America there were few guilds, so chairmakers were unhampered by restrictive laws. Instead, they were stimulated by an active exchange of design

ideas and craft techniques with other immigrant craftsmen. The market for native furniture was growing at a frenzied pace, and the Windsor form was one well-suited to satisfy that demand.

The independence of American chairmakers led to a profusion of Windsor designs with important regional differences. These variations were sometimes

How to Distinguish Regional Origins

BY NANCY GOYNE EVANS



PHILADELPHIA

1770-1785

Maker: Joseph Henzey

- low, broad form with firm stance
- squared bow tips at arm rail
- broad oval seat
- turnings: moderately swelled top bulb, large flared-top spool and short tapered foot
- prominent knobs on medial stretcher
- two-piece carved arm terminals (influence of Queen Anne and Chippendale)

Photo: Courtesy of Winterthur Museum



PENNSYLVANIA GERMAN

1780-1790

Maker: Unknown

- unique dual-leg design: ball foot in front; tapered foot at back
- slight swelling at ends of side stretchers near leg sockets
- oval-bodied baluster with stemmed base that eliminates definition between the spool turning and baluster
- scribe lines on swelled parts of turnings (executed on lathe) on large bulbs, balusters, feet, stretcher centers, arm posts
- rural craftsmanship: thicker 2½ in. seat; long arm reach well beyond posts

Photo: Courtesy of Winterthur Museum



NEW YORK CITY

1783-1790

Maker: possibly Thomas Ash I and William Ash I

- broad oval seat and firm stance in the Philadelphia style
- bold bulbous turnings
- plain pad arm terminals with noticeably chamfered sides
- squared and "toed" bow tips with the tenon partially visible on the top surface of the arm rail
- New York sack backs are uncommon

Photo: Private collection

idiosyncratic, such as an exaggerated splay of the legs or a peculiar turning pattern. Comb-back chairs were made mostly in Philadelphia; continuous-arm chairs were a New York innovation. Rhode Island Windsors had a short taper at the end of the leg. Connecticut chairs had no "rain gutter," the carved decorative groove that follows the back

rim of the seat. Sometimes the use of a particular wood identified the chair with an area. For example, you could fairly safely bet that any Windsor with a poplar seat came from Pennsylvania.

NEW WORLD WAS RIGHT FOR WINDSORS

The population of the Colonies was

doubling every 20 years, creating an enormous demand for inexpensive and quickly made furniture. The Windsor form was well-suited to satisfy this urgent need. Because Windsor construction called for as much wood-turning talent as chairmaking ability, wheelwrights and other wood turners joined traditional chairmakers in churn-



BOSTON

1791-1798

Maker: Samuel J. Tuck(e)

- broad oval seat and firm stance
- short, well-formed balusters with prominent caps
- large-headed spool turnings, baluster caps and swelled taper feet in the Rhode Island style
- side stretchers with large sausagelike center swells (in the Philadelphia style of 1785-87, just before the simulated bamboo turning was introduced in Philadelphia)
- round-tipped bow ends are a New England feature

Photo: Courtesy of Thomas B. Rentschler



RHODE ISLAND

1790-1800

Maker: Unknown

- bold, undercut turnings and swelled taper feet
- marked leg splay
- long end spindles in back with noticeable bends, which echo generous leg splay
- finely modeled seat plank with marked "crease" at center front and top
- flat arm terminals with vigorous sawed profile in various patterns
- legs plugged into socketed plank
- round-tipped bow ends

Photo: Courtesy of Winterthur Museum



CONNECTICUT

1796-1800

Maker: Amos Denison Allen

- stance, size similar to Rhode Island style
- small oval seat nearly square at front corners and blunt, canted edges
- swelled spindle nodules below arm-rail level (Rhode Island influence)
- "mitten" profile arm terminals
- slightly bulbous tipped stretchers (uncommon except in Rhode Island)
- maker was son-in-law of Ebenezer Tracy, Sr., of Lisbon Township, Conn.
- turnings are in Tracy family style

Photo: Courtesy of Winterthur Museum

ing them out. The backsplat and the painstakingly carved cabriole leg found on some English Windsors were discarded by American makers because they slowed production. This stylistic revolution opened the door to other, more significant innovations.

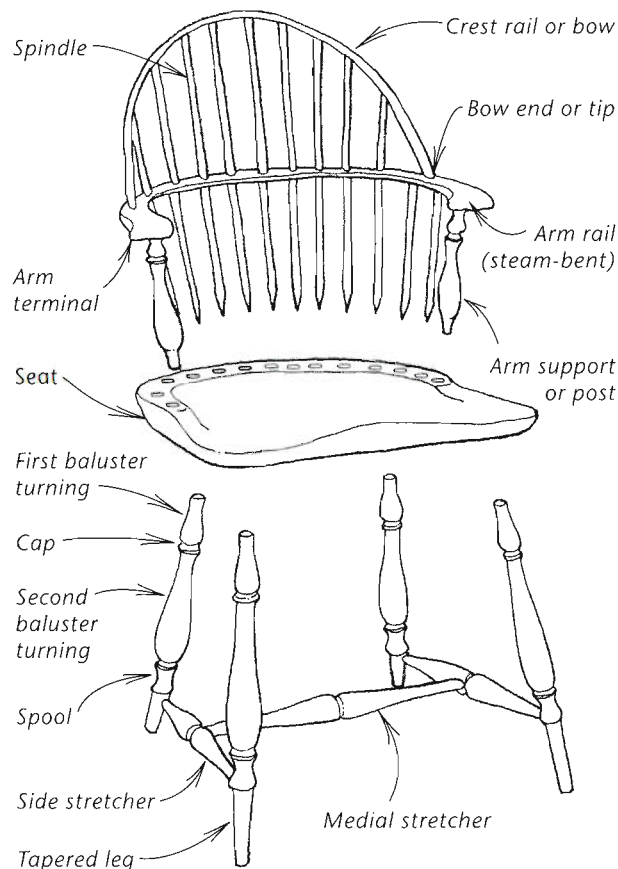
The fact that the Colonial population was spread mostly along the eastern

seaboard helped distribute American Windsors—and the design variations they exhibited. As American merchant ships from the South unloaded their cargoes of cotton, sugar or mahogany at northern seaports, captains filled their empty holds with Windsors for profitable return trips, stopping at American and Caribbean ports.

The lush, tree-covered Colonial countryside also helped American Windsors thrive. English Windsor makers used the only woods available to them: Seats usually were made of elm, turned parts were made of beech, and bent arms were made of ash and yew. American woods were superior for making Windsor chairs because of their great tensile

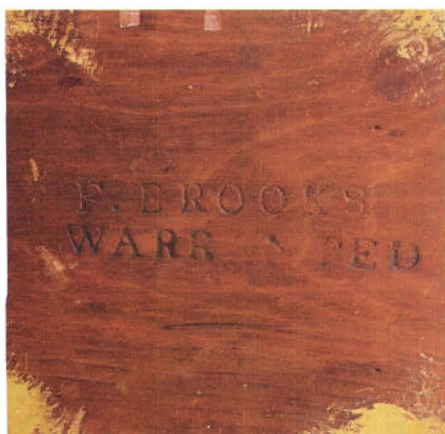
ANATOMY OF A WINDSOR

It is construction rather than decoration that defines a Windsor. A chair is not a Windsor unless it has essentially three sections: a thick seat acting as a foundation; back spindles and arm supports stuck into the top of the seat; and legs plugged into the underside.



The king's chair.

This English Windsor shows the original design: a Prince of Wales backsplat and nearly vertical legs, both quickly abandoned by American Windsor makers.



Mark of the maker. Most Windsors were stamped with the name of the chairmaker. This mark reads: "F. Brooks: Warranted."

strength and shock resistance. Easily carved poplar and soft pine were used for seats; fresh-cut oak, chestnut and hickory, which were flexible and could be turned while still green, were used for spindles and bent parts. Birch and maple, tight-grained and dense, were commonly used for the arm posts and the undercarriage turnings, producing stretchers and legs with crisp details.

TODAY'S WINDSOR HAS 18TH-CENTURY ROOTS

Hundreds of different types of Windsors have been made in America in 260 years, but four from the first 100 years are uniquely American and set the

course for Windsor innovation that continues today. These notable examples of American Windsors—comb-back, writing-arm, continuous-arm and Boston rocker—exhibit original design or construction features.

Comb-back Windsor. The grandest American Windsor of all, the Philadelphia comb-back, dates to about 1740. With soaring spindles and a sweeping comb as much as 44 inches in height, the Philadelphia comb-back commands attention in any room.

The chair also had a large D-shaped seat, up to 24 inches across but only 17 inches deep. English chairs had more



Revolutionary chairs. The comb-back was the first uniquely American Windsor. George Washington kept one (left) at his headquarters in Newburgh, N.Y. The writing-arm Windsor (above), the small desk of its day, was perfected by famous Connecticut Windsor maker E.B. Tracy.

or less square seats with the rear corners cut off and rounded, producing a static and visually anchored Windsor. With less depth in the Philadelphia seat, all the elements were brought closer to the front, creating the illusion that the chair was moving to wrap itself around the person about to sit in it.

The turned arm posts and large handholds were also new to the Windsor form. While English chairmakers bent and carved the arm posts, Colonial chairmakers turned theirs on a lathe, often copying the rings and reels found on the chair's legs and stretchers. This repetition reinforced the design elements and united the top half

of the chair with the undercarriage.

American chairmakers rarely passed up the opportunity to embellish their creations, so the chair's handholds often were carved into decorative knuckles. The turnings were also a clear departure from English patterns, which were streamlined with little modulation. The American comb-back patterns were energetic, adding visual interest to an already exciting Windsor form. The Philadelphia comb-back was a striking example of the bold new direction taken by American craftsmen.

Writing-arm Windsor. When chairmakers created the writing-arm Wind-

sor in about 1770, they showed their ability to innovate and adapt the Windsor form to any need. In the writing-arm style, chairmakers created the largest and perhaps the most useful Windsor. With commerce and scholarship in their infancy in the new land, many 18th-century businessmen and writers couldn't afford full desks but still needed a place to work. The writing-arm Windsor was the solution.

Chairmakers started with oversized chairs, then added a large paddle-shaped writing surface on the right side. They attached the paddle in one of three ways: with the writing surface substituted for the regular arm; with

Backrest and armrest in one. This continuous-arm Windsor, made recently by Vermont chairmaker George Ainley, shows the beauty, strength, comfort and grace of American Windsors.



A coat of color. Early Windsors were painted light green, and later black, dark green, red and mustard. They generally were not left unpainted until the 20th century.

the paddle attached over the original arm; or with the chair and arm designed and constructed as a writing-arm chair from inception. They also frequently added small drawers beneath the paddle and the seat.

Construction of the chair was particularly difficult because it not only had to be a useful piece of furniture but also had to succeed as a visually and structurally balanced design. Although far from graceful, the odd presence of writing-arm Windsors makes them irresistible to collectors, and their relative rarity brings top dollar.

Continuous-arm Windsor. The continuous-arm Windsor was the most fluid and beautiful of all Windsors. First built in New York around 1775, it gave that state's chairmakers the vehicle to surpass their Philadelphia counterparts for the first time.

The back of this remarkable chair—made from a single piece of wood—was steam-bent in two directions, producing a sweeping compound curve that served as the backrest and the armrests. This sculptural innovation created both drama and movement. The continuous-arm Windsor, with its sinuous curve, deeply carved shield-shaped seat, bulbous turnings and canted legs, appeared ready to spring to life. This bold new form pushed Windsor chairmaking to aesthetic and technical heights with its beauty, strength, comfort and grace.

The Boston rocker. Although basic Windsor rockers were produced widely by 1800, the Boston rocker—developed in about 1825—initiated a sharp turn in Windsor design and adornment. It also became one of the most popular and recognizable chairs in the world.

The magnificent rocker is defined by a huge crest rail and a sculpted seat, its most striking feature. At first glance, this rocker appears to be stretching its origins. But the chair adheres strictly to Windsor construction. Although Wind-



sor chair seats were customarily made from a single piece of wood, the Boston rocker's seat was built out of three separate parts. A tall crest piece sat along the top of the main part of the seat, and a third piece on the underside of the front formed a flowing scroll. It gave the chair a look of luxury and created a sense of movement.

The rockers on the chair were relatively thin—only about ½ inch—and set into slots cut in the ends of the chair's legs, then pinned securely. Arms on the rocker often were made of mahogany or walnut, a characteristic borrowed from Rhode Island loop-back armchairs. These thick, highly figured arms on the Boston rocker echoed the seat's flowing curves, reinforcing the feeling of constant motion.

THE CHRONOLOGY OF PAINT

The English painted their Windsors because the chairs were often used in their gardens. The painted finish persisted in America, even after the English switched to stain and varnish.

American chairmakers believed that painting a Windsor unified its design and eliminated the distraction of the different kinds of wood, as well as the grain—thus allowing for a better appreciation of the chair's details.

Noting the popularity of painted furniture in the best English homes in the early 1800s, American chairmakers began to paint their chairs in brighter colors—black, red, straw, mustard and gold leaf—and decorated them with pinstripes, pastoral scenes, cornucopia and imitation rosewood grain. Many of these motifs were stenciled onto the chair and embellished with bronze powders, bright, hand-painted accents and gilt decoration.

Rocker for the ages. The Boston rocker became one of the most popular chairs. This Hitchcock-type rocker features mahogany arms, scrolled seat and gold leaf.

CONTEMPORARY TRENDS

Hundreds of chairmakers in small shops scattered across the United States continue to produce Windsors one by one with painstaking care. Every summer, workshop classes fill with aspiring Windsor makers. Production furniture houses churn out Windsors daily for the furniture and department stores that sell hundreds of thousands of the famous chairs every year.

Today, chairmakers of all levels have taken the Windsor form in new directions. Some have bent the very Windsor definition to the breaking point by using the same piece of wood for the back and the seat, or the back and the back legs (as in George Nakashima's Conoid chair), while retaining the turnings, the plank seat and other elements of a classic Windsor. Others have merely modernized 18th-century characteristics by making the back spindles into a sunrise pattern or exaggerating the bow (as Hans Wegner did in his Peacock

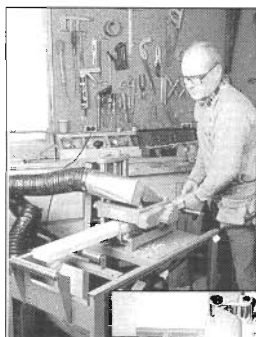
chair). Most Windsor makers, whether in custom shops or production houses, are letting the natural woods show, rather than painting them, as their predecessors did. When consumers purchase a Windsor today, they buy a chair that will always be in style—as it has been for nearly three centuries. ■

Mario Rodriguez is a cabinetmaker and period furniture consultant. He offers workshops in 18th-century woodworking tools and techniques at this shop in Warwick, N.Y.



MOLDER / PLANER

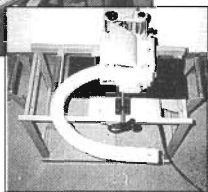
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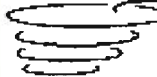
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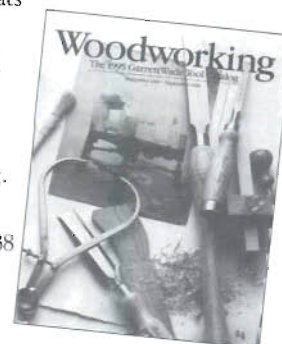
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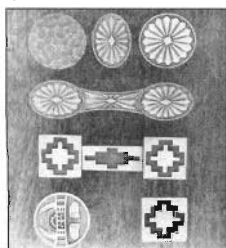
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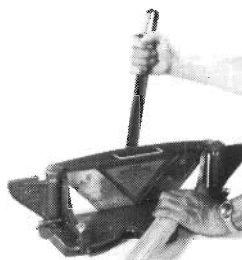
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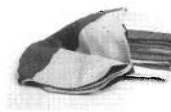
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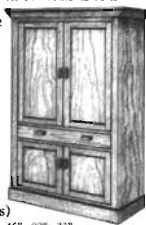
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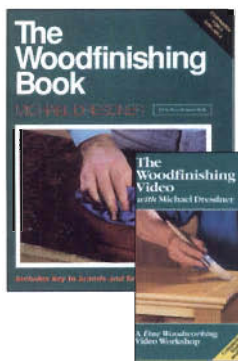
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how they did it

Some furniture makers in this issue have developed unusual or innovative techniques that are important to the success of their projects. *How They Did It* illustrates those techniques.

QUARTERSAWN LOOK IN ARTS AND CRAFTS LEGS

A question in the Winter 1994 issue of *Home Furniture* about how to achieve a quartersawn look on all four sides of an Arts and Crafts leg elicited a response that was different from my approach.

The posts for my "Stickley Prairie Settle" (page 60) were capped by the shelf on top, so I did not have to worry about having a solid core. I simply mitered four quartersawn pieces together, leaving a small square opening down the center. To avoid wasting stock, I picked boards with good figure on both faces, and I nested the mitered pieces. I cut the miters on a table saw with the blade tilting toward the fence. After the initial 45° cut was made on each board, I set the rip fence to give the proper width. Then I ran the boards through, flipping them end for end each time. The feathered edges resulting from the miter cut are fragile at this point but blend together nicely during glue-up. I used a good, clean blade and was able to glue-up right off the saw.

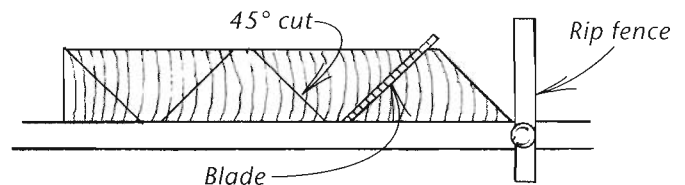
I glued all four pieces for the post at once, using very strong, clear packing tape. I started by taping two adjacent pieces together across their outside faces in a number of places, making sure the tape was rubbed down well. Then I ran a piece of tape down the length of the joint and added the third and fourth sections in the same manner.

MAKING A QUARTERSAWN LEG

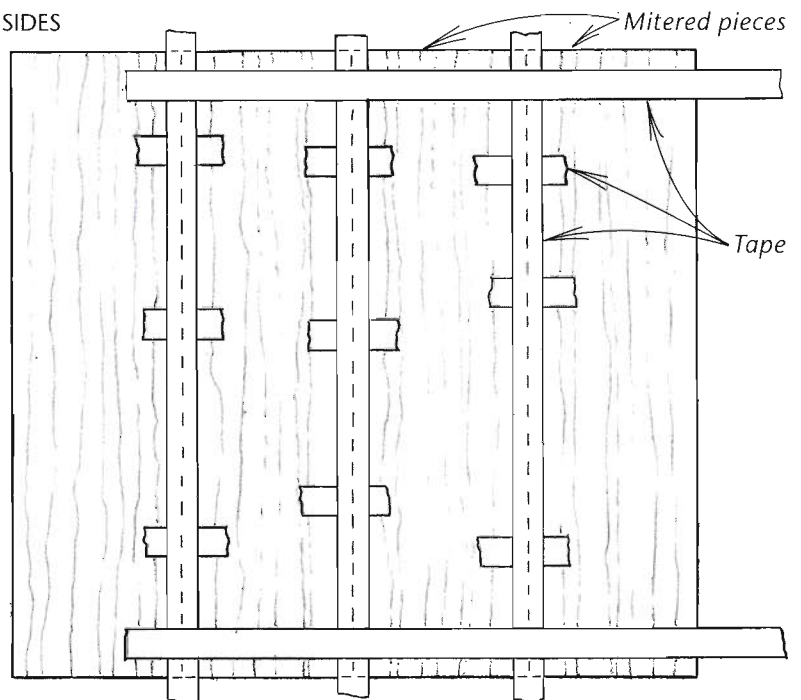
MITERING THE PIECES



MAKING THE CUT



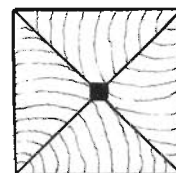
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At both ends of the pieces, I ran one piece of tape across the faces of all four sections, leaving some extra tape at the end so that I could close the joint when I folded it together. I turned the whole thing over so that the outside faces were down and spread glue on all eight miters using a mini paint roller.

I folded the sections to make the square post and used the extra tape length at both ends to keep it closed. Then, starting at one end, I closed the joints by wrapping around and around, overlapping the tape each time and pulling it taught. The tape must be strong enough that it will not break. It works well having two people for this part, one to pull and wrap the tape around, and the other to hold and then turn the post. If the miters were cut well, the tape will close the joints beautifully. The pressure of the tape being wrapped around the feathered edges results in corners that are already slightly rounded over.

—B.A. Harrington

TURNING ON A POLE LATHE

The mechanism for the pole lathe I used for making my chair (*page 82*) is little more than the creative combination of a cord, a treadle and a bow or a pole that was flexible enough to spring back when pulled down. The pole lathe was one of the few complex tools that existed in antiquity. Although lathes were used at least as early as the 8th century B.C., the pole lathe dates back to the 8th century A.D. and was used extensively by the bodgers (itinerant wood turners) of England in the 18th and 19th centuries.

The cord is tied to the foot-worked treadle, then is wrapped around the piece of wood several times and continues upward to the pole or bow. When the treadle is depressed, the cord spins the work. Then the pole springs back, pulling the cord upward and spinning the piece of wood again but in the opposite direction. The turner cuts on the down stroke of the treadle, then eases the tool back while the pole lifts the treadle and rotates the work back in the other direction. Each time the treadle is depressed, the wood turning commences.

The bodgers of England often turned out chair legs and stretchers at a rate of one every four minutes.

—Don Weber



Ancient tool. Don Weber used a pole lathe to turn his chair parts.



Cabinet draped in linen. Linen was glued onto this plywood cabinet before it was painted, giving texture to the surface.

DECOUPAGING A CABINET

I decouped the surface on my Japanese-style cabinet (*page 54*), which simply means that I glued linen onto the inside and outside of the plywood case after it had been assembled. First I filled all the dents and voids in the cabinet (any kind of filler will do). Then I cut each piece of linen slightly larger than each panel (on the inside, I overlapped the edges about $\frac{1}{2}$ inch). With a paint roller, a squeegee and a brush, I spread yellow glue onto the panels. Then I laid down the linen, starting with the inside, and used the squeegee to flatten the linen.

When the glue dried, I trimmed and lightly sanded all the edges of the panel and started putting on the finish. I sprayed three coats of lacquer to saturate the fabric, sanded and then sprayed three more coats of the final color.

—Eric Tolleson



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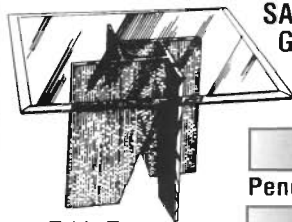


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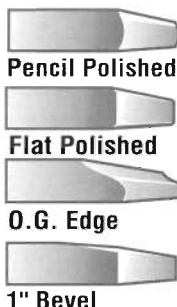
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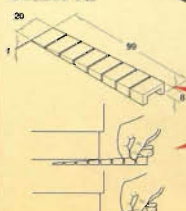
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PACIFIC YEW: FROM BOW STOCK TO CANCER CURE

Many pieces of furniture in this issue contain unusual wood. We asked James H. Flynn, Jr., a wood collector and author, to describe a little-used native wood—Pacific yew (see “Clisset Chair in Pacific Yew” on p. 82).

If the day is damp and gloomy, and you yearn for a bit of sunshine, just split open a billet of Pacific yew. The beautiful bright orange-red heartwood bursts into graceful, wavy patterns framed by the light yellow sapwood. Botanically speaking, you are looking at *Taxus brevifolia*, an evergreen in the Family Taxaceae, which has been with us for millennia. There are other species of yew throughout the world, mostly in the northern hemisphere. Many botanists consider them members of a single

species. Notable among them is European, or English yew, *T. baccata*, a close relative of Pacific yew.

The native growth range of Pacific yew extends from the southern tip of Alaska into northern California and several northern Rocky Mountain states. The Pacific yew commonly grows as an understory species. It seldom tops out over 50 feet, and diameters larger than 20 inches are rare.

Because Pacific yew grows in big-timber country, it has often been neglected by loggers. Lumber companies have found yew uneconomical to harvest when compared with other high-profit yielding trees such as Douglas fir. When yews have impeded the cutting of their giant neighbors, they’ve been relegated to the trash pile for burning. Times are changing, however.

In the late 1960s, the complex chemical paclitaxel (sold under the trade name Taxol) was extracted from the yew bark and found to be effective in treating certain types of cancer. The find created an industry dedicated to gathering yew bark in huge quantities. Concern was expressed that the industry was endangering the species, but such is not the case. Currently there

are more efficient processes for extracting paclitaxel, and they are not limited to the bark alone. Yews are now being grown in plantations, and their needles are harvested to produce the chemical. In the meantime, scientists continue to search for a synthetic replacement for tree-extracted paclitaxel.

The lucky woodworkers who have had an opportunity to use Pacific yew find it as hard and dense as ash, oak and maple. It has no discernible odor or taste, is fine textured with even grain and is relatively easy to machine. No problems are encountered in gluing, and to top it off, yew readily sands to a glassy surface and finishes well.

The ultimate challenge to a woodworker is to adopt the swirling orange pattern of the heartwood to the piece under construction. There is no finer example of this than the lute. Throughout the ages this musical instrument has been made with staves of yew. Other uses of yew are many and include boat decking, tool handles, canoe paddles, carvings and furniture. And one must not overlook the archery bow. In the Middle Ages, whole armies were equipped with bows made from European

yew. This use depleted the supply of yew trees in England to the point where the tree came under the protection of the crown.

Surely this member of the plant kingdom that once produced lethal weapons and now yields a life-saving drug can be classified as a true penitent.

James H. Flynn, Jr., studies and writes about trees and wood in Vienna, Va.

SOURCES FOR PACIFIC YEW

A survey of specialty lumber retailers reveals that Pacific yew is difficult to find. Most retailers said they never, or very rarely, have yew in stock. Even those who do carry it said the size and quality of solid yew varies widely. Boards tend to be small, in the range of 4 inches to 6 inches wide and 4 feet to 6 feet long. An extraordinary board might be 10 inches to 12 inches wide and 6 feet to 8 feet long. Depending on size and quality, Pacific yew sells anywhere from **\$4 to \$8 per board foot**. Suppliers include: **Gilmer Wood Co.** (2211 N.W. St. Helens Road, Portland, Ore. 97210; 503-274-1271) and **Tropical Exotic Hardwoods** (P.O. Box 1806, Carlsbad, Calif. 92018; 619-434-3030).

MOVEMENTS AND PARTS FOR GRANDFATHER CLOCKS

Ken Munkel used a mechanical movement for his grandfather clock (p. 70) made by **Mason and Sullivan**. Although the company is no longer in business, movements (both quartz and mechanical), parts and other clock supplies are available from: **Klockit** (P.O. Box 636, Lake Geneva, Wis. 53147; 800-556-2548); **Murray Clock Co.** (510 McNicoll Ave., Dept. UF, Willowdale, Ont., Canada M2H 2E1; 800-268-3181); **Precision Movements** (4283 Chestnut St., Emmaus, Pa. 18049; 800-533-2024); and **Woodcraft** (210 Wood County Industrial Park, P.O. Box 1686, Parkersburg, W.Va. 26102; 800-225-1153).



Clock movements are available through a few mail-order companies.



Many outlets and mail-order companies offer a wide variety of veneer.

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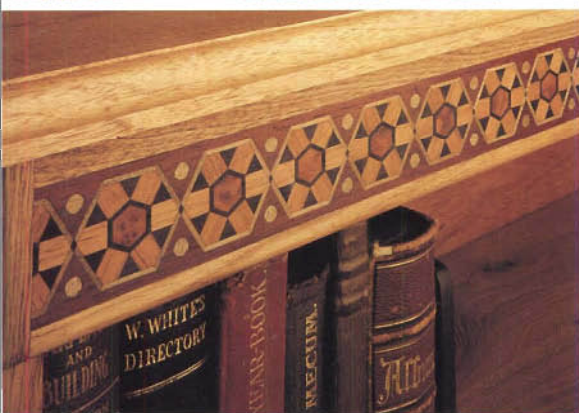
Veneers range in price and are widely available from mail-order companies and local retailers. If you are unable to find a local outlet for veneer or would like a larger selection, the following mail-order retailers may be able to help you find what you are looking for: **A&M Wood Specialty** (Box 32040, Cambridge, Ont., Canada N3H 5M2; 519-653-9322); **Brookside Veneers** (215 Liberty St., Metuchen, N.J. 08840; 908-494-3730, 908-494-3930); **Certainly Wood** (11783 Big Tree Road, East Aurora, N.Y. 14052; 716-655-0206); **Colonial Hardwoods, Inc.** (7953

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The slate top on Eric Tolle-son's cabinet (p. 54) came from **Thorntree Slate and Marble** (5122 Steadmont Dr., Houston, Texas 77040; 713-690-8200). Thorntree sells slate in slab or tile form. Tile sizes range from 8 square inches to 2 square feet. Slate slabs average about 2½ feet by 60 inches (slabs are about 1 inch thick). Thorntree sells domestic and imported material. Tiles can cost anywhere from \$3.50 to \$15 per square foot. Slab slate, with a finished edge, ranges from \$50 to \$70 per square foot. Thorntree accepts phone orders and will ship almost anywhere.

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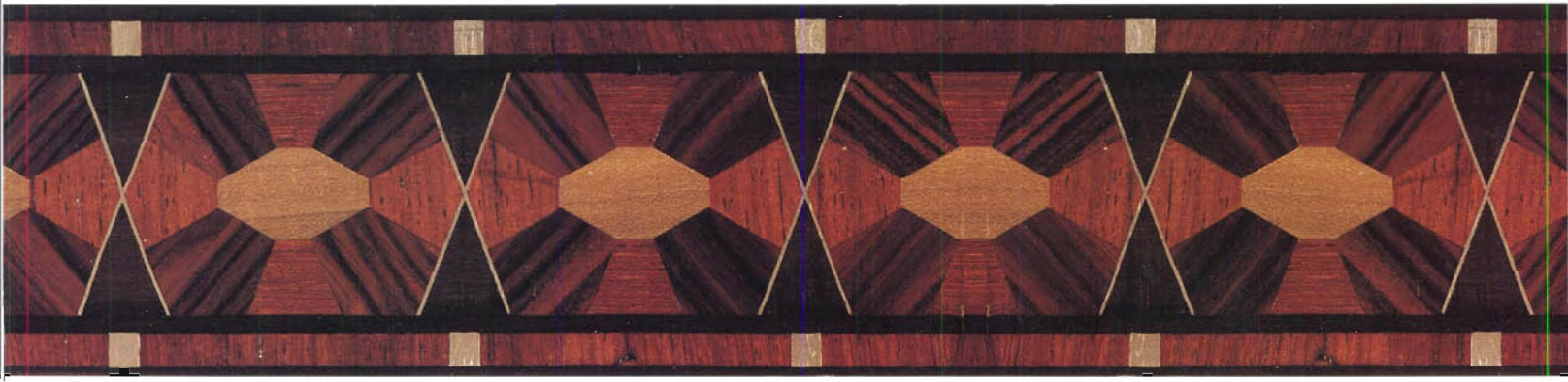


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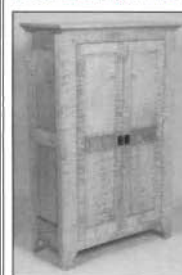
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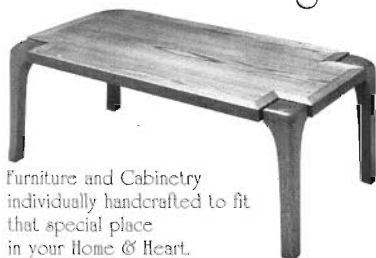


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■ about the furniture makers

Home Furniture prints the addresses and telephone numbers of the furniture makers featured in each issue, unless the maker requests that they be omitted.



J.M. SYRON AND BONNIE BISHOFF

(pictured above) bring a combined experience of 20 years in fine art and furniture making to their work. They create one of a kind and limited production furniture and furnishings in their four-person studio (2131 North American St., Philadelphia, Pa. 19122; 215-427-2397). *"Upholstered Bench"* on p. 74.

GEORGE AINLEY

is a self-taught woodworker who has been making furniture for 20 years and now runs his own shop (RR1, Box 223, Perkinsville, Vt. 05151; 802-263-5217). His Windsor chairs appear on pp. 92 and 98.

CHRIS BECKSVOORT

designs and builds furniture in his shop in Maine. He has been woodworking for more than three decades and has had his own business for 12 years. He also is a contributing editor at *Fine Woodworking* magazine (P.O. Box 12, New Gloucester, Maine 04260). *"Shaker Collector's Cabinet"* on p. 48.

MAE BROWNING

discovered cabinetmaking through Carpenters Union night classes. She decided to make furniture after touring the North Bennet Street School (574 Boston Ave., Medford, Mass. 02155; 617-484-8518). *"Dining Table with Painted Legs"* on p. 58.

JOHN CAMERON

has been a woodworker and professional musician for most of his adult life. He recently spent two years studying under James Krenov at the College of the Redwoods. He now designs and builds furniture in Boston (Fort Point Cabinetmakers, 368 Congress St. 4th Floor, Boston, Mass. 02210; 617-338-9487). *"Pearwood Cabinet on Stand"* on p. 62.

STEVEN COOK

teaches and writes about woodworking in addition to his professional woodworking, which includes furniture and musical instruments (750 Edmonds St., Edmonds, Wash. 98020; 206-774-0631). *"Cherry Writing Desk"* on p. 72.

DAVID FAY

has been a self-employed furniture maker since 1992. He lives in San Francisco and works across the bay in Oakland (423 Buena Vista East, San Francisco, Calif. 94117; 510-763-7852). *"Narra Bed with Exposed Joinery"* on p. 44.

B.A. HARRINGTON

came to woodworking as a feltmaker. She plans to work on future projects that combine the two crafts. She is a recent graduate of the North Bennet Street School and works in a shop with her partner, Judith Hanson (c/o Klein Woodworking, 574 Boston Ave., Medford, Mass. 02155; 617-395-2750). *"Stickleley Prairie Settle"* on p. 60.

KEVIN KOPIL

has been working with wood since 1978. He studied design before opening his own woodworking business six years ago (Kevin Kopil Furniture Design, P.O. Box 411, Rt. #2, Jonesville, Vt. 05466; 802-434-4400). *"Tapered and Curved Legs on a Dining Set"* on p. 86.

STEVEN LASH

discovered his passion for woodworking as a child. He lives in Michigan, where he builds museum reproductions as an avocation and works on restoring his turn-of-the-century home (4331 Geisler's Ct., Bloomfield Hills, Mich. 48301). *"Queen Anne Armchair in the Philadelphia Style"* on p. 50.

STEPHEN LATTA

has been a cabinetmaker for 14 years. He now works at Kinloch Woodworking, a five-person shop in Unionville, Pennsylvania, that specializes in interpretations of 18th- and 19th-century furniture (701 Old Limestone, Oxford, Pa. 19363; 610-932-9771). *"Chester County Spice Box"* on p. 76.

STEPHEN LAUZIÈRE

is a woodworker in Weathersfield Bow, Vermont. He builds furniture by choice, boats for fun, and anything else out of necessity. The house described in the article is still "in process" and consumes time not spent on other projects (P.O. Box 499, Ascutney, Vt. 05030). "*Linen Cabinet Inspires Built-in Cupboards*" on p. 56.

TERRY MOORE

was born in South Wales and soon discovered a strong desire for music and woodworking. His work has appeared in galleries throughout New England and is part of the permanent collection of the Currier Museum of Art in Manchester, New Hampshire (11 Summer St., Newport, N.H. 03773; 603-863-4795). "*White Ash Sideboard*" on p. 42.

KEN MUNKEL

comes from a long tradition of woodworking: His grandfather, father and four uncles were barn builders. After receiving a degree in architecture, he opened his own woodworking shop. He now spends his time designing but builds furniture for himself as time permits. "*Walnut Grandfather Clock*" on p. 70.

JOHN NESSET

treats his furniture as sculpture but does not consider himself part of the art-furniture movement. His daughter spawned his pursuit of woodworking (4744 Fifth Ave. S., Minneapolis, Minn. 55409; 612-827-4039). "*Apple Writing Box with Secret Compartments*" on p. 67.

R. JOSEPH RANSIL

is a retired electrical engineer. He worked in the aerospace industry for 37 years but has been working wood for five decades. He is one of the founders of the Southbay Woodworkers Association (19801 Braemar Dr., Saratoga, Calif. 95070; 408-867-9640). "*Dining Table with Soft Edges*" on p. 53.

COLIN REID

studied furniture design under Wendy Maruyama at the California College of Arts and Crafts. He opened his shop in 1990 (2622 Camino Lenada, Oakland, Calif. 94611; 510-839-7031). "*American Side Tables*" on p. 46.

CHARLES SHACKLETON

trained in England and Ireland as an artist and glass blower before moving to Vermont. He started building furniture in his basement 10 years ago and today employs more than 20 craftsmen, many of whom have had little or no woodworking experience (The Mill, P.O. Box 48, Bridgewater, Vt. 05034; 802-672-5175). "*Cherry Sleigh Bed*" on p. 80.

PHILIPPUS S. SOLLMAN

designs houses and furniture. He was born in The Netherlands, has an architecture degree from Penn State University and has been self-employed since 1971 (318 N. Fillmore, Bellefonte, Pa. 16832; 814-355-3332). "*Ribbed Dining Chairs*" on p. 64.

ERIC L. TOLLESON

has a shop in Texas and works mostly on commission, often using different materials in combination. His work has been accepted for several national juried shows, and he received a Sam Maloof Scholarship at the Anderson Ranch Center in Snowmass, Colorado (721 Telephone, Houston, Texas 77023; 713-924-4042). "*Japanese-Style Console*" on p. 54.

WILLIAM TURNER

makes custom furniture in the barn he rebuilt behind his house in Deer Isle, Maine. A graduate of the North Bennet Street School, he has been running his business since 1984. He also teaches high-school English (RR1, Box 1175, Stonington, Maine 04681; 207-367-2749). "*Tambour Cabinets*" on p. 84.

DON WEBER

is a member of the Association of Pole Lathe Turners. He lives in Mendocino, California (Handcraft Woodworks, P.O. Box 1322, Mendocino, Calif. 95460; 707-937-0920). "*Clisset Chair in Pacific Yew*" on p. 82.

CURT WESSEL

builds furniture on commission. Wessel taught himself woodworking, which, he says, "means really that I have learned from doing and from hanging out with other woodworkers who know more than I do" (1581 Ranch Lane, Ellison Bay, Wis. 54210; 414-854-9431). "*A Simple Table in Elm*" on p. 78.



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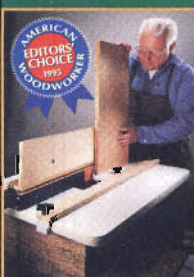
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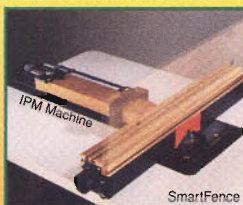


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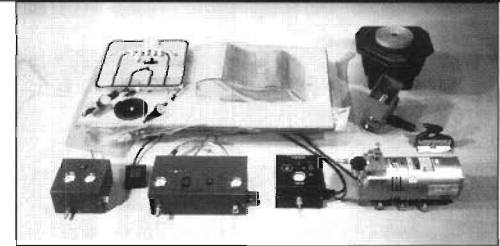
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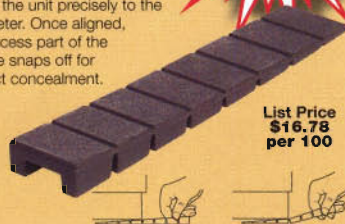
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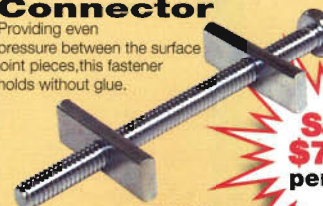
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