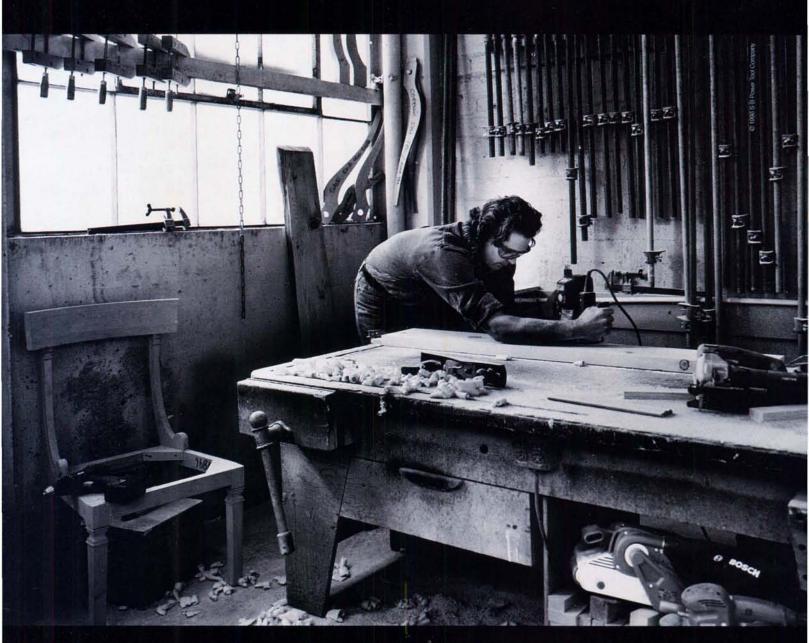
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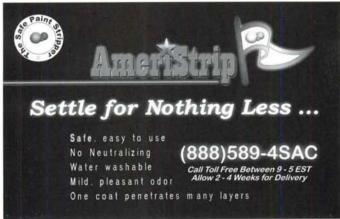


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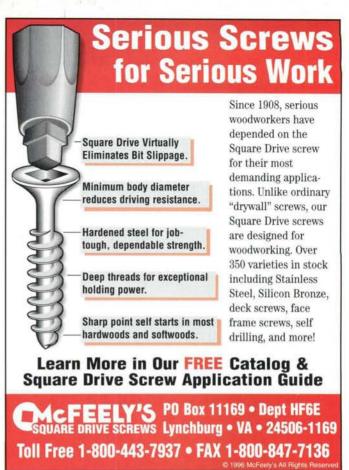
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home furniture

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SUMMER 1996 NO.7



On the cover: James Krenov's hickory and pearwood cabinet typifies his tranquil yet engaging style. See p. 32. Photo by Jonathan Binzen.

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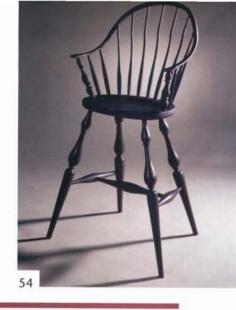
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THE LEGACY WE OWE TO WILLIAM MORRIS

October 1996 will mark the centenary of William Morris' death. As such, this is a good time to acknowledge the debt that present day designers and builders owe to him. In the process of lecturing to the public over many years, Morris created the philosophical base that drove the Arts and Crafts movement well into the 20th century.

In the Victorian home, excessively exuberant and overcrowded rooms were the norm. Most of this clutter was factory produced and did not allow for any creativity from the craftsman. It was against this soulless, factory product that Morris and his adherents rebelled, calling for simplicity, honesty to the materials and therefore of design; and room for the craftsman to express himself. These are the ideals that keep many of us working at our benches today.

Practicing what he preached—that to design effectively in a medium, you must be master of it—his designs are still considered milestones in their respective fields. He was recognized during his life as a genius. On his centenary his genius is seen in the continued relevance, to all fields of design and craft, of the philosophy he carefully developed. As furniture designers and builders we continue to deal with many of the same arguments and problems that William Morris had to struggle with more than 100 years ago. It can only be to our advantage to learn from him. Of course, our implementation will be different; it was a tenet of the mature Arts and Crafts movement that each age should have its own identity.

For those traveling to London this year, there is a William Morris retrospective exhibition at the Victoria and Albert Museum, starting in May. Also in London is the William Morris Gallery. Major homes decorated by Morris & Co. can be seen at Standen, south of London, and Wightwick Manor, west of Birmingham.

-Nicholas A. Goulden, London, England

KEEP THE FOCUS ON THE INDIVIDUAL

In reading your magazine, I especially like the information about other small-shop furniture manufacturers and how they came to learn the art. Keep the focus on the individual amateur or professional craftsman, his or her artistic history, technique and gorgeous product and I will be a longtime customer. The photos are beautiful as well and I can think of nothing that would make the magazine better. You are providing a forum for craftsmen to educate furniture "hacks" like me. God knows I need it and am grateful to find such a fine educational source.

-Michael M. Grant, Atlanta, GA

GIVE READERS CLUES ON CUSTOM-FURNITURE PRICING

I think that information on pricing of custom woodworking would be very helpful to many self-taught readers like myself. I can understand some reticence on the part of your contributors to put specific pricing information on the pieces that appear in *Home Furniture*, but some indication of the time spent on the pieces would help many of us, without giving away any trade secrets.

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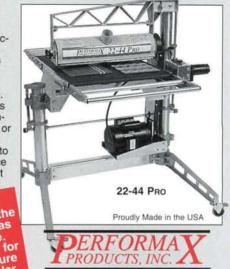
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Rather than asking contributors to divulge the actual prices they charged for specific pieces, I believe an entire article on the "philosophy" (science or guesswork?) of pricing one-of-akind and limited-production custom furniture would be of great value to many of your readers. Perhaps a survey or a cross-section of your contributors, from one-person backyard affairs to production shops such as Charles Shackleton's (HF #6, p. 90), in which their various pricing strategies could be explained, whether anonymously or not, would fit the bill. As a woodworker whose hobby has evolved to the point where people are asking for (and even willing to pay for) my work, I often find myself baffled about how to quote potential customers a price on what they want. Also, issues such as charging for design time, prototyping, and so on, would be very helpful.

-Michael M. Singer, Felton, CA

MEASURED DRAWINGS WOULD BE INSULTING

I just received and read my first issue of *Home Furniture*. The one thing I find most attractive about your



publication is the fact that you don't have measured drawings and plans. I would be embarrassed to have to request or use other people's drawings.

The artisans you feature in your publication and the works they produce are astounding. The magazine's ability to inspire others to create beautiful furniture is wonderful; to supply them with measured drawings would be nothing short of insulting.

I have been building custom furniture and antique reproductions in western Canada for 20 years and I am very inspired by what I see.

-David R. Cote, Alberta, Canada

MISSING CREDITS

The painted redwood bench by Don Green (photo above) that appeared in the Spring 1996 issue of *Home Furniture* should have included credit to the owners of the piece, Dr. Kenneth and Bonnie Lippman, and the Meredith Gallery in Baltimore, Maryland.

Submitting an article. Home Furniture is written by its readers, and we welcome manuscripts, photographs and suggestions. We'll acknowledge submissions and return material we can't use. We pay for articles we publish. For details, give us a call or drop us a note.

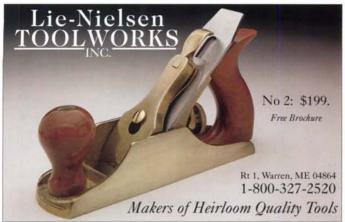
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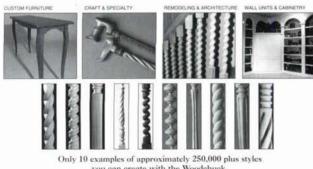
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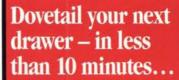
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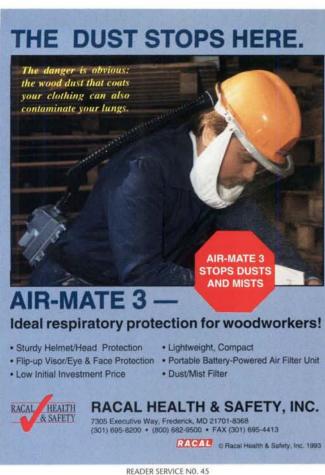
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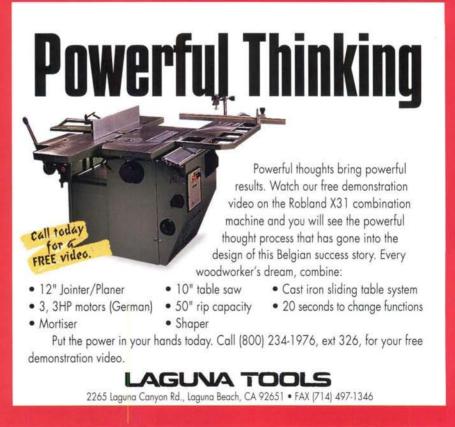


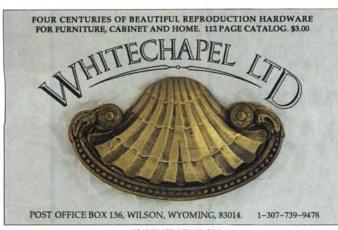


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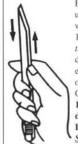
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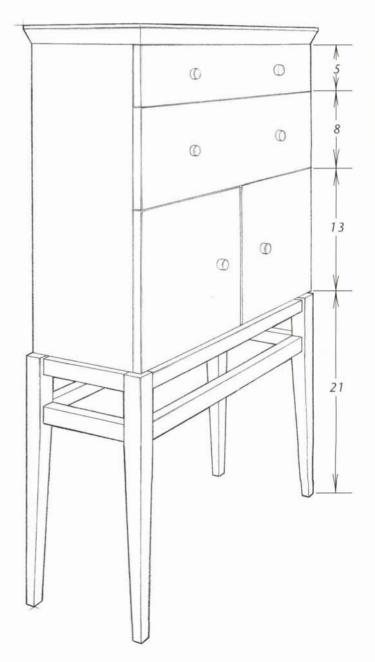
—K. Woodman, Arundel, Maine John Novak responds: You are right. The Fibonacci series is similar to the golden section but much more "user-friendly." Each number in the Fibonacci progression is the sum of the two preceding numbers. As the series progresses, the ratio between two consecutive numbers approaches

1:1.618, which is the golden section ratio. But since the Fibonacci numbers can be all whole numbers (or fractions of an inch), this is a system that is easy to translate into shop drawings.

I often use the Fibonacci numbers to give me a set of dimensions appropriate to a specific project. For example, if the smallest dimension in a project is 1/4 inch. I use this as the first number in the series, and then simply add to produce the following series: 1/4, 1/2, 3/4, 11/4, 2, 31/4, 51/4, 81/2, 133/4, 221/4, 36 and so on. These concrete dimensions can be used in many different ways. If my project is a box, for instance. I can make the top 13¾ inches wide by 8½ inches deep (a golden section) and I can use the other dimensions in the set to establish other parts.

If you are starting with a large number (like the height of a bureau), you

can determine the Fibonacci series in reverse. Remember, as the Fibonacci series progresses, it approaches the golden section. To approximate the



THE FIBONACCI SERIES

Each number in the Fibonacci series is the sum of the previous two. As the numbers get higher, the ratio between consecutive numbers approaches the golden section ratio, 1:1.618.

Fibonacci series in reverse, multiply the largest dimension by the golden section (.618), then round that number off and subtract it from your original number. Here's an example: If the largest dimension you are working with is 72 inches, multiply it by .618. Round off the answer, 44.496, to 44½ and subtract it from 72.

This method produces the following series: 72, $44\frac{1}{2}$, $27\frac{1}{2}$, 17, $10\frac{1}{2}$, $6\frac{1}{2}$, 4, $2\frac{1}{2}$, $1\frac{1}{2}$, 1, $\frac{1}{2}$.

John Novak is an industrial designer in Atlanta, Ga.

DRAWING FREEHAND CURVES

I like furniture that has free-form shapes rather than geometric curves. What are some easy ways to draw irregular or nongeometric curves?

—R. Ridlon, Jersey City, N.J.
Peter Tischler replies: I draw
most of the curves in my
designs freehand and fullscale and I have some
methods to insure that each
curve is drawn with a
smooth, flowing line.

On small curves, the wrist can act as a pivot and the free movement of the hand produces a nice, even arc. For larger curves, use your elbow as a pivot, and swing your arm in the desired arc.

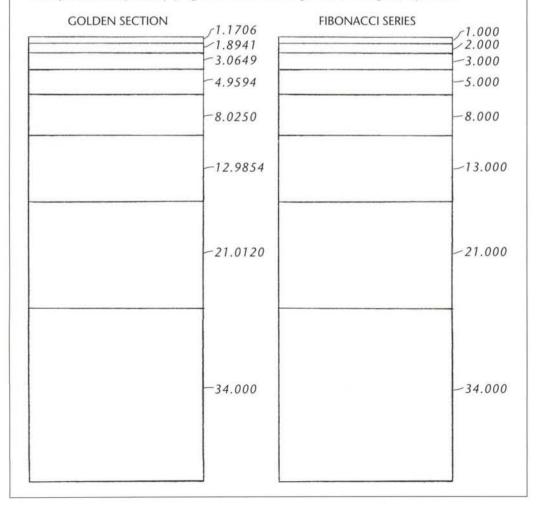
Thin wooden battens can also be used to draw or clean up a freehand curve. For example, draw a shape freehand until you get close to what you want. Then, to make sure there are no humps or dips in the line, use the batten to "fair" the curve (see "Laying Out Curves Using a Batten" in HF #4, p. 13).

I also like the freehand method for drawing transitions between curves. One way to tell if a curve is right is to view it upside down; a good curve will look good from all directions.

Peter Tischler designs and builds furniture in Pine Brook, N.I.

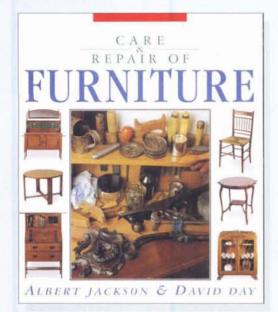
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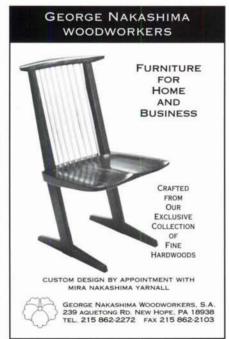
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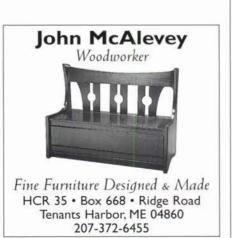
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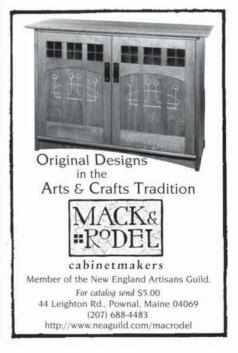


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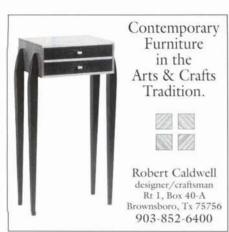




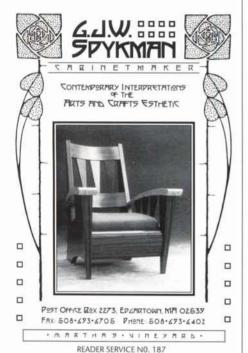




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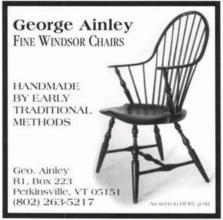
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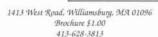
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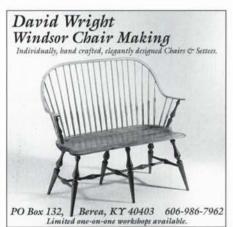
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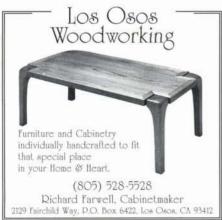




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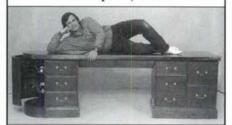
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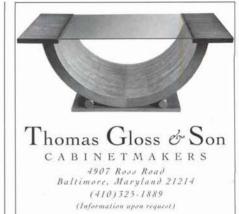
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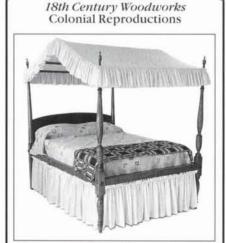
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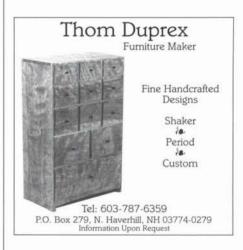


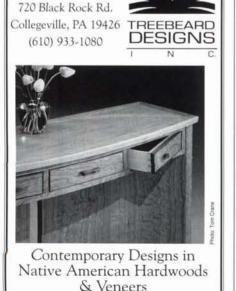
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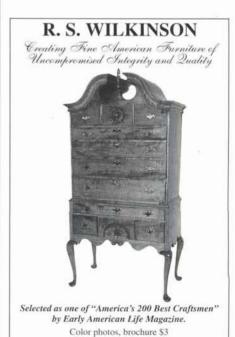
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INDUSTRIAL STRENGTH, DEMURE BEHAVIOR

For a few years now I've been using an industrial finish that sprays on like lacquer and sets up like steel, but has an appearance as unobtrusive as oil. I used it on my "Upholstered Dining Chairs" (p. 70). It is a clear, catalyzed vinyl coating called Super Kemvar C made by Sherwin Williams. It has to be sprayed on, because it dries so quickly. But it's easy to spray-far less fussy than spraying lacquer-and it can be sanded and recoated in 20 minutes. Unlike lacquer, this stuff doesn't have the obvious appearance of build-up on the surface, and it can't be polished to a high gloss. It is extremely hard and is resistent to water and other spills, making it especially good for table tops. I've found you can even wash it with window cleaner. Sherwin Williams makes a harder version called Kemvar M, which is more water resistent, builds up faster, and can be polished to a glossy finish. Both of these

products contain
formaldehyde, so proper
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protective mask are
essential. It is also
imperative that you
thoroughly clean your
gun immediately
after spraying.
For my ebonized
chair (p. 71) I sprayed
Sherwin Williams P-63

black base coat before applying the Super Kemvar C. To order any of these products, call your local Sherwin Williams store.

—Lorna Secrest



Clarity and consistency. Aniline dye provides the deep, clear tone; then wiping stain evens out the color.

TWO-PART STAIN FOR DEEP, EVEN COLOR

To get the vibrant, consistent color of his "Updated Mission Hall Table," (p. 60), Richard LeBlanc used a combination of aniline dye and oil-based wiping stain. He's used and been satisfied with two similar products, one made by Rudd Company, the other by Guardsman. With both products, the aniline dye goes on first and enables him to get a deep, rich, dark color without losing the detail of the grain. Like the ammonia-fuming that was used on many original Mission pieces, aniline dve actually changes the color of the wood, rather than depositing pigments on its surface the way that stains do.

Although the aniline dye gives you darkness and clarity of color, it's not always consistent; it can get blotchy because it dries so quickly. To even out the color, the aniline dye is followed with an oil-based wiping stain of the same hue.

Aniline dye can be brushed, ragged or sprayed on, and it comes water-

based or alcohol-based (although neither Rudd nor Guardsman makes a water-based aniline). Water-based dye is trickier to use because it raises the grain far more than alcohol-based, but it is better for the environment.

The oil-based stain is simply wiped on and wiped off. It can be applied over either the alcohol or water-based aniline dye, as long as the dye is completely dry. LeBlanc seals the job by spraying several coats of nitrocellulose lacquer.

LeBlanc used the Rudd Company's Base Toner dye stain and their Pro-Blend pigmented wiping stain, both in cordovan. For information, bulk ordering or a local supplier, call **The Rudd Company** at (800) 444-7833. LeBlanc has also used Permatone dye stain and Graintone wiping stain from Guardsman. Call **Guardsman Wood Coatings Division** at (616) 248-4617.

a stain and a finish and can be used on exterior and interior woodwork as well as clay or porous stone.

Both Dubno primer and Kaldet resin and oil finish are sold by **The Natural Choice** (1365 Rufina Circle, Santa Fe, NM 87505; 800-621-2591). The company sells craft and home products made from naturally derived organic materials. It calls these products "low toxic," meaning they contain fewer toxic and hazardous materials than standard finishing supplies. The company also says its products are made in ways that reduce pollution and are packaged in recycled or biodegradable materials.

Another source for Dubno primer and Kaldet resin and oil finishes is **Fat Andy's, Inc.** (P.O. Box 425, Cumberland, ME 04021; 800-962-5529).

Earth-friendly finishes. Livos minimizes the amount of toxic and hazardous materials in its finishes.

ALL NATURAL FINISHING SUPPLIES

Peter Turner used two all-natural products for the oil finish on his "Bookcase with V-shaped Shelves" (p. 50). After sanding the surface smooth, he applied two coats of Dubno Primer Oil manufactured by Livos. Applied like any oil (wipe on with a rag or brush and wipe off), the Dubno primer is intended to penetrate and seal wood before sanding again and applying a surface coat.

For the final coats, Livos makes a resin-and-oil finish called Kaldet that comes clear as well as in a variety of colors. Kaldet is both



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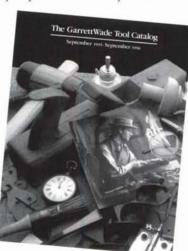
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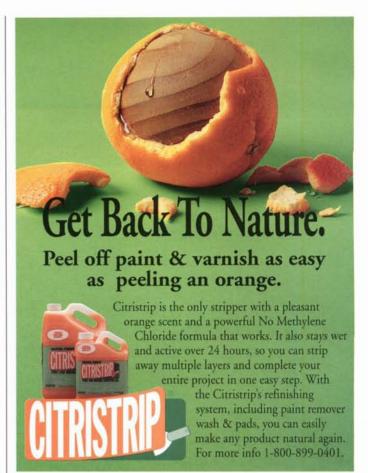
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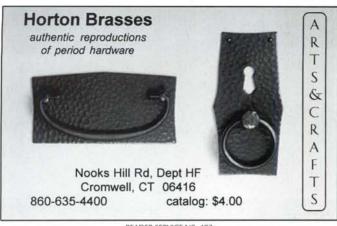
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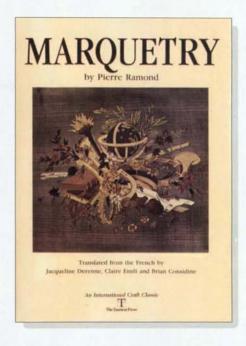


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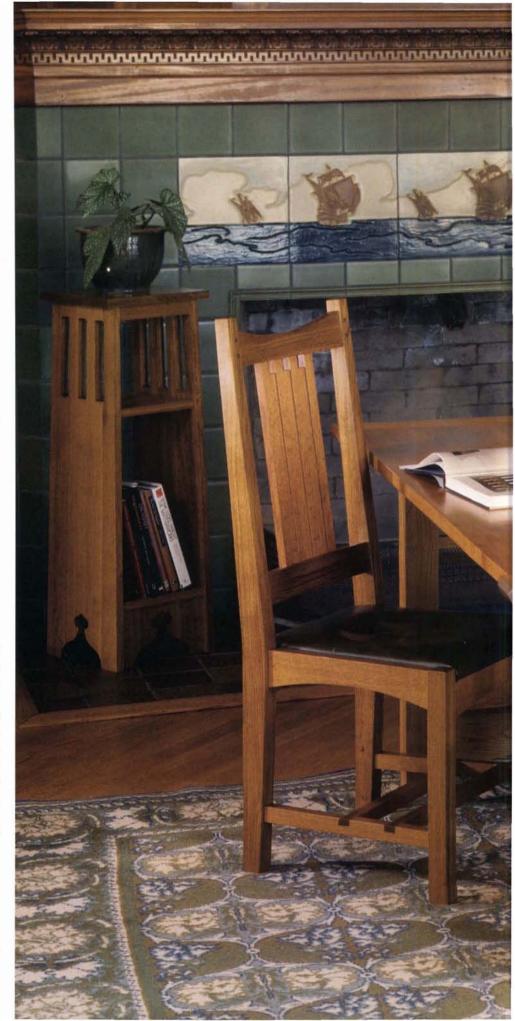
Arts and Crafts Reborn

Find freedom in the structure of a period style

BY KEVIN P. RODEL

to an onlooker, making furniture in a period style may seem limiting. But for me it has been liberating. As a self-taught designer, I've found that accepting the restrictions of a period style has helped loose the flow of original design ideas. Rather than doing exact reproductions, I generally design a piece by drawing ideas and elements from a range of pieces and makers. Sometimes I borrow a specific detail, sometimes just a general mood. While many

Reanimated Arts and Crafts. Blending elements from various Arts and Crafts designers, Rodel makes fresh pieces with the feel of the originals. Lamp by Raymond Tillman.







Executive Arts and Crafts. Once mastered, the Arts and Crafts idiom is flexible enough to serve a range of contemporary uses. In his search for the right mood, Rodel doesn't overlook the details, here using an ebony insert to accommodate a lamp cord.

of the ideas are not original with me, there is self-expression in reassembling and reanimating them.

Learning to design this way is a matter of time and experience, just like learning a craft. To become proficient at cutting dovetails, you have to cut a slew of them; every time you cut a set you get a little better, a little faster. With every design done within the parameters of a period style, you learn to use a detail or an element you like, and you can then put it on the shelf and it's

yours. The more you master, the more flexible you become in designing.

FINDING THE RIGHT IDIOM

A period style gives you an elaborated structure in which to work. The relationships of details to proportions have already been explored and resolved in thousands of pieces of furniture. These provide a self-guided course in furniture design. But finding the right style for your own work is the necessary first step.

Mackintosh modified. Rodel redesigned the sides and top of a built-in C. R. Mackintosh washstand to make this freestanding server.

I learned the craft of furniture making-the joinery methods, stock preparation, layout, efficient use of time and materials-by building Queen Anne, Shaker and Federal-style pieces. I learned the styles well enough to make copies, but not well enough to feel entirely comfortable making original pieces in the same mode. Then I began studying and building Arts and Crafts style pieces, and instantly felt at home. I responded to the visual style and, just as important, to the ideas that spawned it. In Arts and Crafts I found a century-old style that felt entirely current. A major component of the Arts and Crafts philosophy was a belief in the value of craft and craftsmanship. I had staked my career on a similar belief. Because I felt comfortable in its confines, Arts and Crafts enabled me to begin learning the art of design.

ADAPTING, NOT COPYING

I find many Arts and Crafts designs inspiring, but I rarely duplicate them. Some of the chair designs of Frank Lloyd Wright and Charles Rennie Mackintosh, for example, although acclaimed for their beauty, are rated on the opposite end of the comfort scale. Comfort and use are just as important to me as aesthetics. Working the way I do, borrowing here and there, I'm free to adapt a beautiful but uncomfortable or outmoded piece to some new use.

I recently reworked a Mackintosh washstand. The original piece had the proportions, details and mood of a masterpiece. But not many of us have use for a washstand anymore. I was able to keep the overall feel of the original and redesign it as a dining room server (see the photo above right). Since the original was designed to fit snugly into a bedroom alcove, it had very stark sides. I added a carving



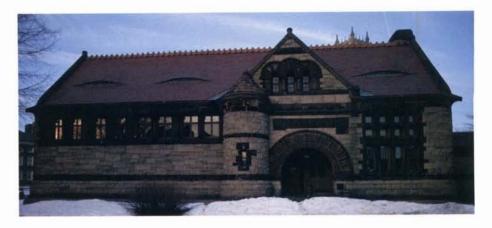
there in a flower motif that recurs throughout Mackintosh's work. And I replaced a row of cubby holes across the top with a relief-carved panel that gave me a place to install lighting.

So while I look to the past, I design for the present. I make furniture to fit the needs of my customers. Their requirements include space for computers, lighting and compact disc players. I always try to anticipate the compromises such equipment requires by doing little things like accommodating wiring instead of just ignoring it. It's easy to forget, when working out the way a piece will look, that it has to serve a person's needs.

ARTS AND CRAFTS TOOL KIT

You can often recognize Arts and Crafts work by its rectilinearity, exposed joinery and stout construction. But there are a number of other elements I use to evoke the mood of the original work.

Broad, overhanging tops are a familiar statement from the Arts and Crafts



Inspired by architecture. The mood and detailing of buildings offer fruitful ideas for furniture. H. H. Richardson's Crane Library (right) inspired Rodel with its powerful presence. Rodel tried to give his desk (below) a similar rootedness with a series of arched forms at the bottom.



period. In my tables and case pieces, an overhanging top is often the dominant horizontal line. The other less dominant lines take their positions and proportions in reference to it.

Overall, I prefer to emphasize horizontal lines over vertical ones while trying to maintain an interesting interplay between the two. If I can pull it off, I like to "trick" vertical lines into making a horizontal statement. I've done this on the front and sides of the writing desk (bottom photo this page)

with a row of leather-paneled squares, and in my side chairs, where alternating slats stop short of the crest rail, forming a row of square holes.

I often enrich the vertical surfaces of a piece with offsets, shadow lines and piercing to break up broad expanses and to generate a sense of depth. Where vertical and horizontal members meet, I almost always use a shoulder or setback. Breaking up a surface this way creates texture, something more for the eye to explore. To achieve another level of texture, I often incorporate materials from other crafts in my pieces. This is in the tradition of the Arts and Crafts movement, which was as robust in ceramics, glass, fiber and metalwork as in furniture.

Handmade decorative copper, brass and iron hardware are hallmarks of the Arts and Crafts style, and I make use of them frequently. But so are leaded glass, ceramic tiles, leather and inlaid metal or wood. All these materials strengthen the link to the original Arts and Crafts furniture, but they're also a pleasure to use for their own sake. And I enjoy the contact they bring with people working in other crafts.

THE INFLUENCE OF ARCHITECTURE

I pay nearly as much attention to the architecture of the Arts and Crafts era as the furniture. Arts and Crafts designers were particularly deliberate about linking the two, but the same correspondence is found in almost all eras.

My large writing desk was directly inspired by buildings. I had seen a side view of Frank Lloyd Wright's Robie House, and I loved the strong horizontal lines of the roof and the terrace and the way the narrow, vertical windows and intervening mullions formed another strong horizontal band. It struck me as a perfect blend of line and proportion. I was inspired, too, by Wright's Ward Willets house. On the facade of that building I saw a motif of square forms over rectangular ones flanked by broad, vertical piers, which I adopted for my desk. With Wright, although I may derive some detailing from his furniture. I find more ideas in his architecture.

The writing desk is also indebted to the beautiful Romanesque buildings of American architect H.H. Richardson. Although Richardson died in 1886 just as the Arts and Crafts movement was dawning, I find that his massive masonry buildings are quite compatible with the style. The connection isn't in the motifs and details, but in the shared underlying virtues: weight, strength, repose and a nod toward medieval guild craftsmanship.

I've also adopted architectural ideas in a more explicit manner. Sometimes I'll design detailing for a piece of furniture that gives it the feeling of a miniature building. On one glass-front bookcase (see the bottom photo this page) I saw something architectural in the way the posts, back and sides extended above the top. So I added some lines and squares of inlay, giving the

piece a castle-like look that solidified the connection.

FINDING THE EXOTIC IN ARTS AND CRAFTS

My small table (photo at right) employs exposed joinery, solid rectilinear forms, and plain native wood. All are basic elements of Arts and Crafts design. But without straying very far, the table also shows how the idiom can be used to express and interpret other ideas.

After making a plainer version, I modified the design to evoke a mood of Moorish architecture. It took just a couple of strokes. First I made a curved cut into the underside of each cross-stretcher. When these members were assembled, the curves intersected at 90° and created pointed, Moorish arches. I scooped out the bottom of each leg so a very small arch was visible on each face. All these tiny arches around a main central arch were meant to echo the symmetry and clustered arches of a Moorish mosque.

To further suggest this mood, I cut stopped coves (elongated arches) into the bottom edge of the table top. And I added a line inlay around the top. Together, the inlay and the arches create a miniature architectural cornice that I hoped would balance the details in the base and give a slightly exotic flavor to a simple design.

TRANQUIL FURNITURE

One of the fundamental principles of the Arts and Crafts movement is that architecture should not intrude upon the landscape, but be part of it. I've tried to apply the same axiom to furniture, working to design pieces that don't stand out, but become part of the interior landscape. I would prefer that someone entering a room I'd furnished not notice any individual pieces, but instead feel a sense of welcome and tranquillity.

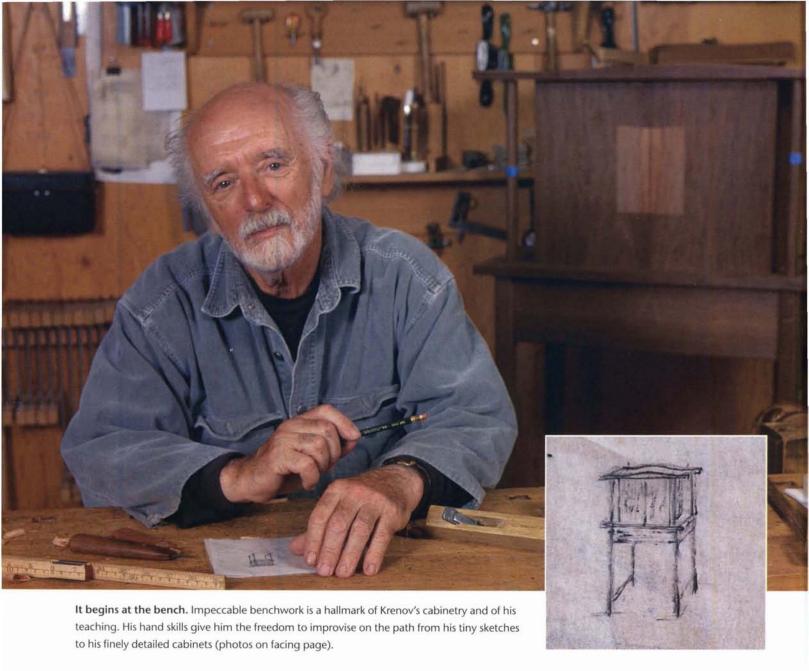
Kevin P. Rodel and his wife, Susan C. Mack, build custom furniture in Pownal, Me.



Moorish Mission. Rodel finds the Arts and Crafts style extremely adaptable. Here he uses a cluster of arches to evoke the design of a Moorish mosque.

Fortified bookcase. Inlaid lines and squares create a scene of miniature battlements surmounting this bookcase.





James Krenov, Master of the Handmade

He delivers a message of intimacy and excellence in furniture, in print and in person

James Krenov's diminutive cabinets cast some of the longest shadows in contemporary furniture. Personal, precise, modest in mood as well as in scale, they have been widely exhibited and extravagantly admired. Collected by monarchs and museums, they rarely sit for long unsold.

Krenov's influence on other furniture makers has been profound. In his four books and through his teaching he has introduced a poetic approach to oneof-a-kind furniture making that has changed the way many woodworkers think about their materials, their tools, their craft and their lives. But Krenov's success and influence have not been without controversy. People find him gruff as well as gentle, maddening as well as moving. And for all his exposure, he remains something of a mystery. But while it is unclear what the legacy of his teachings will be, it's likely that when history sifts out our century, some of Krenov's cabinets will stand among the finest furniture of our era.

MEETING THE MAN

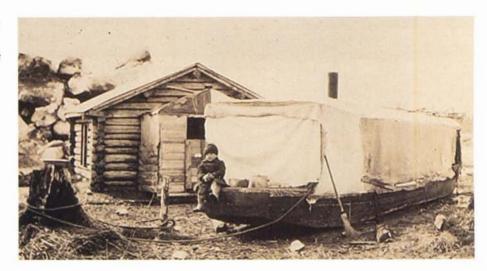
Krenov's furniture is an image of his extraordinary upbringing. He was born in Siberia in 1920, the son of Russian aristocrats on a transcontinental trek in search of adventure and a new life. Over the next decade his family would live in Shanghai and in remote villages in Alaska before settling in Seattle. From his mother, once accustomed to having her clothes made in Paris. Krenov inherited "the need for excellence and the genuine and a kind of reverence for fine things." But there is little of high fashion in Krenov's furniture. His style was formed more by exposure to the utilitarian crafts of the towns where he grew up: fish traps, baskets, knife handles, snowshoes, boats. "I was brought up on aesthetics not as a topic, but as ethnic art or craft, as nature," he says. "I've spent most of my life sailing, being in mountains, on beaches. If I have any aesthetic education, it is a synthesis of the lines of a fine boat, the way a branch bends in





Wave of the present. With its wavy, temple-like roof and pillars, this cabinet in Honduras rosewood, finished last fall, shows Krenov still experimenting at 75. The inlay and interior are pear, the drawers mesquite.

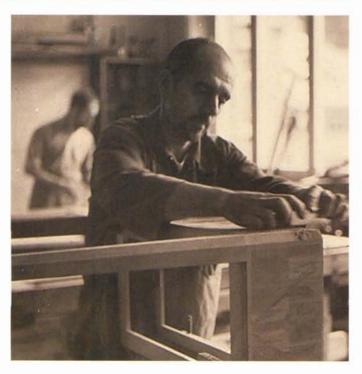
A global voyage starts in the Arctic. In 1923 a three-year-old James Krenov sits on a boat left behind when floodwaters receded from the tiny town of Sleetmute, Alaska. Born in Siberia, he has since lived in China, the Alaskan territory, Sweden and the United States.



Good hands. An only child raised in remote villages, Krenov became his own toymaker.



The master's apprenticeship.
Krenov (right) found his vocation here, in a school run by Swedish furniture designer Carl Malmsten.



the wind."

Krenov remembers making his own toys as a child. As some of his mother's native Alaskan students gathered to watch, he would make toy airplanes, boats, a tiny crossbow that shot arrows made from kitchen matches. When he gave them away, he pleased himself as much as his playmates. Now, at 75, after a lifetime of making furniture, Krenov sits in the sun behind the small school in Fort Bragg, California, where he has taught and built furniture for the past 15 years. His voice is high and raspy and he plays it like a reed flute. Talking is an art with him; a listener soon learns not to interrupt too often, just to sit back and let the dazzling stream flow. Thinking of those toys he made and gave away, Krenov looks down at his fingers, momentarily at rest on the picnic table. "I've always had strong hands," he says, "good hands."

MALMSTEN FOR A MENTOR

In his mid-twenties, Krenov left Seattle for Sweden, more or less on a whim, and then stayed for 30 years. There he found his life's work and an imposing mentor, Carl Malmsten, then the foremost furniture designer in Sweden.

Krenov says that Malmsten had a very strong personality and was an overbearing teacher: "a patriarchal, holier-than-thou" figure "who knew all



that was right and all that was not right" and "gobbled up young, gullible students." But Krenov credits Malmsten with having "sound, simple, straightforward" ideas about furniture, an excellent eye and a nearly magical way with lines. "He was forever trying to train us to draw beautiful lines," Krenov says, to draw them freehand,

"to get a line that is subtle, yet definite.

One that hasn't been forced, it's been coaxed. And some of the coaxing is left in."

In a look through one of Malmsten's catalogues, one recognizes forms and motifs that underlie many of Krenov's cabinets. If Krenov hasn't strayed far from his roots, perhaps that is because his exploration has been inward rather than outward. "I've never believed that

"The quiet object in unquiet times." In his spalted broadleaf maple and red oak cabinet Krenov reaches his goal of provoking peaceful contemplation.

An affair of the hand. With beautifully articulated junctions, Krenov brought joinery to the level of sculpture.



you have to be all that inventive," he says. "Form is only a beginning."

THE TACTILE CABINET

From across the room, a Krenov piece is calming rather than exciting. Its colors are muted, its lines limber. But encountering one of his cabinets is hardly a passive experience; once you are within arm's length, the work invites interaction. Reach for a door pull and you notice the texture left by his carving tool. The pull is small and shaped so you naturally grasp it between thumb and forefinger, so you use the muscles of your hand rather than your arm to open the door. The spalted maple panels in the doors curve right out of their frames at one side, as if to raise an unanswerable question. Everywhere you move your



"A slight curve can be a marvelous message," Krenov says, "it doesn't need to be a pretzel." He proves it in this lithe showcase cabinet in pear with hickory legs and frame.

Why is it wedge-shaped? Krenov needed this narrow door wide at one side to mount knife hinges but tapered it to keep it from looking clunky.



hand or eye there is something to explore. Even the pegs that support the shelves are tenderly carved. Every inch of the cabinet counts. "Within the little details," he writes, "there is a search for meaning."

Krenov doesn't divide the furniture making process into design and construction; instead, he interweaves the two. He starts with little more than a doodle, a rough sketch as small as a thumbprint, though just as telling, and plunges into the building. He makes decisions as he goes, responding to the color, grain and working characteristics of the wood and to the way the overall forms and details of the piece interact as they emerge. Krenov calls this way of working "a fingertip adventure." Tom Hucker, a furniture maker in New York City, compares Krenov's method to that of a watercolorist: "It's a very naked way of working. Very pure. You don't cover up mistakes. One try and that's it. Every brushstroke is revealed-nothing is hidden."

FROM FURNITURE INTO LITERATURE

Shavings curl from the plane in my hands. ... (M)y contentment is bound by the white-washed walls of my little cellar shop, by the stacks of long-sought woods with their mild colors and elusive smells, by the planked ceiling through which I hear the quick steps of a child—and yet it is boundless, my joy. The cabinet is taking shape. Someone is waiting for it.

There wasn't a single construction drawing in *A Cabinetmaker's Note-book*, Krenov's first book on furniture making, and no advice on when to use what kind of joint. But it was as explicit a manual as a woodworker could find. It described a seductively unhurried, uncompromising way of working that promised full engagement in life and work without much direct engagement in society.

The response to it was overwhelming. Jim MacDonald, a furniture maker

Graphic design. In a stark departure from his typically sculptural pieces, Krenov here (and in other recent work) creates graphic effects on flat surfaces with abstract patterns of veneer.





An open fire. Krenov named this cabinet Fire and Smoke for the figure in its pearwood veneer; alerce is the framing veneer and the drawer fronts are pernambuco.

in New Hampshire, speaks for many others when he says, "From the second I opened that book I was a woodworker. It changed the course of my life." Curtis Erpelding, who builds furniture near Seattle, remembers that after Krenov's first book came out, woodworking became "a religion, a way of life. He offered a completely different vision of what it meant to work wood and to be a furniture designer."

For some, the impact of Krenov's work was almost too strong. "It was so powerful and so appealing," Erpelding says, "that it could have a negative effect in terms of trying to find your own voice." And although the graceful prose of Krenov's books made it easy

to imagine the life he described, many people encountered financial problems when they tried to emulate that life. Bob Ingram, a Philadelphia furniture maker, says he found Krenov's books "way too romantic. It was all right for him, he found a way to make money from it. But I saw so many people embrace that romance and fall flat on their faces."

Krenov acknowledged the quandary, going so far as to call his third book *The Impractical Cabinetmaker* and referring to himself and those who worked in a similar way as amateurs. Acknowledging the problem didn't solve it, however; those influenced by Krenov have all had to find the balance



Details carry DNA. Custom drawer pulls carved in pernambuco reflect the rigid lines of the cabinet.



Simple sophistication. Krenov's most recent cabinet, in pear and mahogany, is a complex work of craft that anyone can understand.

point between his poetry and life's practicalities. John Gallagher, a recent student of Krenov's who finds himself making flutes instead of furniture, is philosophical: "Jim teaches creative writing. He's not teaching how to write for advertising or for newspapers."

A PRIVATE MAN GOES PUBLIC

The success of his books brought Krenov increasingly out of his Swedish cellar and into classrooms and lecture halls around the world. In his speaking as in his writing, Krenov was able to string together strong images and moving anecdotes in a seemingly offhand way. People flocked to hear him. Describing one lecture in New York City, he says, "Believe it or not, 900 people showed up. It was like a rock concert. I was scared to death. I went out on the stage and took the mike and flipped the cord-you know, the way the singers do-and I said, 'Is this the way they do it?' Everybody laughed, so we were off and running."

In 1981, Krenov founded the wood-working program at the College of the Redwoods, in Fort Bragg, California. Students come from around the world and from a variety of other endeavors to attend this little community college program. Prior accomplishment in music or painting is as likely to get you admitted as skill in working wood. It is a measure of the quality of instruction that at the end of nine months even students with no previous experience in the craft turn out work at an extraordinarily high level.

The school's atmosphere is one of intense concentration and dedication. Students describe the experience as one where the rest of the world falls away, providing a rare opportunity to do the very best work they can. "I can't say enough about how much he pushed me, and raised my sights toward what was possible," Bill Walker, a Seattle furniture maker, says. Les Cizek, another former student, had a long and successful career in business before attending the school. Describing Krenov's teaching, Cizek says,

"He's got a gift for making you see things. We all can walk through a garden and say, 'That was a great garden.' But if you go through with the right person, you come out with a different appreciation for form, arrangement, color—your way of seeing has been enhanced."

Just as Krenov's readers must make their own peace with the conflicts his message raises, his students have to confront the contradictions of his personality. Krenov's intensity and unwillingness to compromise, the very qualities that fuel his furniture, can make interaction with him difficult.

Krenov acknowledges there are times when "you get into a corner and you become adamant or people interpret you as intolerant or opinionated; and maybe sometimes I am. It's a negative side of my person. But the positive other side is that I have strong views." Krenov feels that anyone who works alone and makes a life of self-expression must rely on the strength of his convictions. "You've got to believe in something, something you won't compromise on."

The style of Krenov's furniture is as strong as his opinions, and the College of the Redwoods program has been criticized by some outsiders because student work tends to look like Krenov's. Les Cizek concedes that it often does, but he thinks it only makes sense: "If you were studying under Beethoven, you wouldn't play jazz riffs. You'd learn what he had to teach you. Later on you could take what you learned and develop your own voice."

A POWERFUL GRIP

Amid acclaim and controversy, Krenov keeps making furniture. As the shadows grow longer, he sometimes finds himself "counting from the other end, thinking old man's thoughts." But he shows no signs of slowing down. He still works seven days a week and some of his recent cabinets, veneered in abstract patterns, show a daring new direction in his work. He walks daily on the beach with his wife of 45 years,

Where to find the man and his work

BOOKS:

A Cabinetmaker's Notebook, 1976 The Fine Art of Cabinetmaking, 1977 The Impractical Cabinetmaker, 1979 James Krenov, Worker in Wood, 1981

All four books were originally published in hard cover by Van Nostrand Reinhold. The first three are now available in soft cover from Sterling Publishers; the fourth is out of print.

FURNITURE:

James Krenov's work is available through Pritam and Eames Gallery, 27-29 Race Lane, East Hampton, NY 11937; (516) 324-7111.

INSTRUCTION:

For information about classes contact:

The College of the Redwoods Program in Fine Woodworking 440 Alger Street Fort Bragg, CA 95437 (707) 964-7056

Britta, and plays tennis whenever the weather is fine, easily holding his own with players half his age. Describing the pace of his life, Krenov starts to say it might make sense to take things a little easier. But then he admits he can't imagine it. "I want all my life to be active. There's a clarity that comes from really being taken into your work. It pulls you into a sense of balance that you don't find anywhere else. I'm myself when I'm working."

Jonathan Binzen is an associate editor at Home Furniture.





Look Around Before You Design

Draw on memorable furniture



chair in his own personal style.

henever I design a new piece of furniture I try to expand my skills and incorporate at least one new technical procedure. But most important, I try to reach a new design plateau by forming new shapes from a variety of the best design ideas that I have collected. When I built my new chair, I wanted it to be simple in form and well-proportioned.

A design instructor once encouraged me to accumulate visual influences by learning to look at all designed objects, not just furniture, with a critical eye. He used the expression "visual currency" to describe the accruing influences, and extended the metaphor by stressing that, like money in a bank, you never withdraw exactly the same currency that was deposited, but instead retrieve something that has been changed and reconfigured. If you "learn to see," he asserted, your design vocabulary gradually builds and a personal style will begin to emerge.

BE AWARE GENERALLY, THEN NARROW YOUR FOCUS

I make an effort to be aware of design generally. But when designing a specific piece, my focus narrows to furniture. As I began work on the chairs, I visited furniture stores and galleries, and noted appealing pieces and details in books and magazines. Several specific influences began to emerge in the early stages of design. I admired the visual economy of the back in a set of chairs by Rod Wales, and noted how a simple manipulation of square accents could significantly alter the chair's appearance. I liked the broad stance of Bert Aalbers' chair, and the lightness that the curving front seat rail gave to Beth Yoe's design. I had previously built a Peter Waals reproduction chair, and was pleased with the combination of walnut and ebony stringing. I especially liked the termination of all four legs in black accents. I had confidence in the mortise-and-tenon joinery, and had been impressed with

INTERNATIONAL 'CURRENCY'

The author's influences, which he refers to as "visual currency," included chairs by (clockwise from top) Rod Wales of England, Beth Yoe of Oregon, Peter Waals of England and Bert Aalbers of Holland.



the mechanical strength of Waals' wedged through-tenon stretcher rails.

LET A MOCK-UP MOVE AROUND THE SHOP

After several pages of sketching, I started building a full-scale mock-up. Materials for the mock-up included lumber salvaged from construction sites, styrofoam, masking tape, screws, nails and felt-tipped pens. I assembled quickly, but carefully sized and pro-

portioned the components. I took pains to view the mock-up from several angles because of a previous experience. During the design stage of a rocking chair, I had primarily viewed the mock-up in three-quarter view. Not surprisingly, the finished chair was strongest in three-quarter view and had design problems when viewed from the front.

The mock-up moved around in my shop for several weeks, being turned

and viewed from all angles and various distances. I continuously substituted components, reshaping and rescaling. When I started to reject the substitute components, I knew the design was getting close.

REFINING THE DETAILS

The initial concept changed considerably during the mock-up as dozens of alterations, large and small, were made. The black accents on the feet





An uncertain future. The author found that, once constructed, his chair revealed that it would have been very difficult to duplicate in limited production.

Accentuate the figure. The black accent between the back splats sets off the stresses in the walnut crotch veneer, which in turn complements the curving figure in the crest rail.

ABUNDANT ANCESTRY

The author's chair borrows its curved rail from the Yoe chair, its joinery from the Waals chair, its wide stance from the Aalbers chair and the look of its back from the Wales chair.



Wales Chair



were adjusted several times, and the stretcher rails were elevated closer to the seat. This gave the chair a lighter stance, and provided a straight line to contrast with the curve of the seat rails. The width of the front seat rail was reduced, and the seat went from leather to fabric back to leather. The grain orientation in the veneered back went from upward to downward. The back was shortened; its three black accents became one. A simple, more

subtle crest rail was substituted for the original. In general, the chair was scaled down, simplified in form, and reduced in complexity.

With the mock-up complete, I selected grain carefully before cutting out any individual components. I wanted the back veneer to be active visually, and to complement the curving figure displayed in the crest rail and front seat rail. The gathering stresses in the crotch veneer rein-

forced the logic of the location of the black accent.

BALANCING DESIGN AND CRAFTSMANSHIP

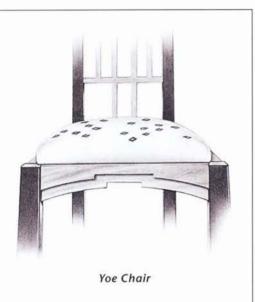
Designing and building a piece of furniture is a demanding process, as disciplines that sometimes compete must be blended. Displays of technical virtuosity that are poorly proportioned or crudely detailed are no more effective than fresh and fully realized designs that have been rendered without craftsmanship. Balancing the two is a constant challenge. Despite the care taken during various design stages, final building often reveals construction problems overlooked or unanticipated, procedures inappropriate for a given piece or details in need of further refinement. Although I was generally pleased with the finished chairs. there are refinements and alterations I would make before building more.

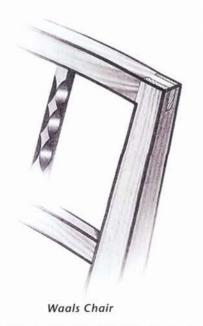
It would have been difficult to produce a run of several matching chairs because of the use of shop-sawn veneer glued to a bent-laminated substrate. The band saw produces thick veneer and the loss of some stock in the saw kerf. The result: rapidly changing figure from chair to chair.

The connection of the seat rails to the front legs proved more difficult in practice than on paper. I had wanted a subtle, tapering reveal that would echo the form of the front legs, but it was difficult to maintain through finish planing and was slightly inconsistent between the two chairs.

I also may have leaned too heavily on the Waals chair. Much of the structure translated well, but the exposed joinery of the bridle joint at the crest rail competes with the visually more important grain figure at the top of the chair. Next time I would use a more elegant joint.

Richard Helgeson studied furniture design at Rycotewood College in Thame, England. He now works in his own shop in St. Paul, Minn.







Faux chair. A mock-up made of scrap wood and styrofoam made it easy for the author to view his design from different angles and change it until he got it right.





Salem Secretary in Figured Mahogany

BY DOUG MOOBERRY AND KEVIN ARNOLD

A flock of pigeonholes. One advantage of a secretary this size is beautifully appointed storage space, including 13 secret compartments. The custom-made brasses from England (above) had to be bent to conform to the double oxbow drawer fronts.

desk and bookcase ever since we started making furniture together in the early 1980s. We needed just three things: someone to pay us, a great desk and bookcase to copy, and wood to blow everybody away.

The first part, finding the collector—well, everyone knows what that's about, but finally a longtime customer became interested. The second part—which desk to copy—was up to our client. We looked at different examples of cases from Newport and Philadelphia, but the double oxbow fronts of

Salem and Boston were just too seductive to pass up.

We found a wonderful color photograph with dimensions in *American Furniture in the Kaufman Collection*, which showed the desk open and closed. This photograph and others in Israel Sacks' *American Antiques* books were enough for us to create our variation on these masterpieces.

The last element was what wood to use; as it turned out, we had some nice pieces of mahogany tucked away in the barn for just the right project. For the upper doors, we bookmatched sol-

SPECIFICATIONS

DIMENSIONS

46 in. wide, 26 in. deep and 98 in. high.

MATERIALS

Mahogany, poplar and brass.

FINISH

Aniline dye, shellac and paste wax.

id crotch mahogany panels.

The double oxbow drawer fronts were sawn from 2½-inch thick crotch mahogany—consecutive boards, naturally. For the remainder of the case we used two 30-inch wide mahogany boards 18 feet long, sawn consecutively out of the log and therefore consistent in color and grain. Local poplar is the secondary wood.

We have restored many desks, and the knowledge we gained doing that helped fill in where the photographs and dimensions left off. We drew the desk full size, mainly to make sure its 98-inch height would fit into the client's house. We found that it would, and building started. The hardware and locks were custom made in England and took forever to arrive. When they finally appeared, we refiled the brasses and repolished them to get the patina we wanted.

As construction began, we invited our client to visit the shop from time to time and see our progress. To him, watching the piece unfold was an important part of becoming the desk's owner. Every so often, on sunny days, he would ride out to our shop on his Harley to see how things were progressing.

Inside are 13 secret drawers. When we delivered the desk, we filled the secret drawer that was hardest to find with Godiva chocolate gold coins and waited for them to be discovered.



Wood on fire. The flaming crotch mahogany adds visual punch to the facade of this spectacular secretary, based on one built in Salem, Massachusetts.

18th-Century Stretcher Table

BY MARY CONLAN

This table is a close copy of an early 18th-century stretcher table from North Carolina. I changed the thickness of the stretchers and altered the ovolo moldings on the stretchers and around the top, but otherwise adhered to the original design. There was a quarter-round bead molding on the bottom edge of the apron, so I added that to the top of the stretchers. I also routed a thumbnail molding around the outside edge of the top, giving it a slimmer and more elongated look.

I saw the table as a puzzle to solve construction problems and to best use the walnut, which I got sight unseen. I balanced the grain on the top by putting a limb knot and another highly figured section at opposite ends. I oriented the grain in oversized leg blanks to get a linear grain pattern on the squuare faces of the legs (see How They Did It, p. 99), and I used the same section of wide boards for the aprons and the stretchers. I also had enough material to cut the drawer face out of the front apron, keeping the grain continuous.

I ordered the wood over the phone, being careful to specify dimensions and grain. When it arrived, I hand planed the wood to see the grain and color and was pleased to discover that it was clear and vibrant. It was airdried and then kiln-dried at a low

Grain-balancing act. Though simple in form, the author chose the grain for this table carefully for continuous figure and color.

temperature to maintain the color. The more typical steaming process used in larger mills often bleaches walnut and mixes the color of the heartwood and sapwood, making it a uniform but bland coffee-with-milk color. What I got was a rich blend of tones: burnt sienna, burnt umber and occasional streakings of blue, crimson and burnt orange.

SPECIFICATIONS

DIMENSIONS

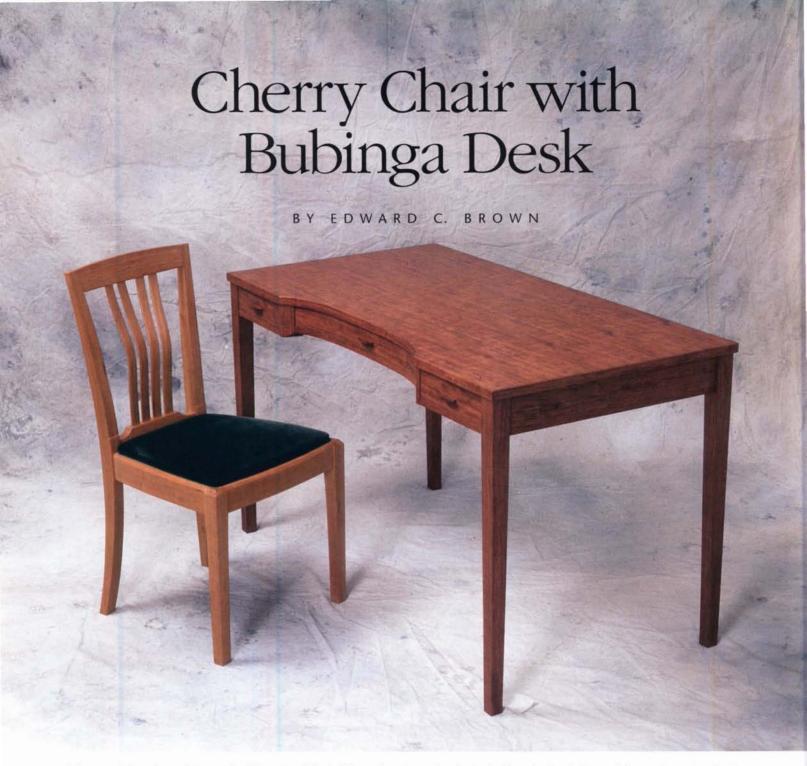
38 in. long, 17 in. wide and 28 in. high.

MATERIALS

Walnut.

FINISH

Tung oil and varnish.



The wood doesn't need to match. Although strikingly different in color and grain, the bubinga desk and cherry chair complement each other.

designed this chair and desk to be clean and functional. I wanted the warm wood tones and gentle curves to create an inviting, timeless form.

A full-scale mockup and several friends of different sizes helped me de-

termine chair dimensions that would be comfortable for the average person.

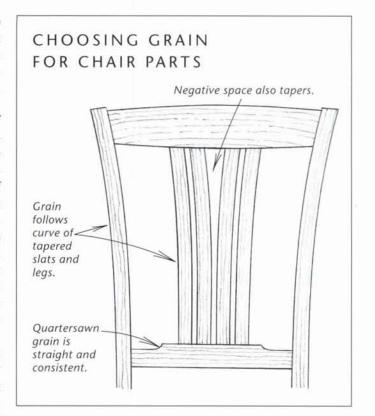
I made the slats on the back of the chair flexible, so they support the lower back whether a person leans forward or backward. Oversized mortises in the crest rail allow the slats to move deeper into the crest rail when flexed.

Tenons join the front and rear seat rails to the side, where they are held fast by dowels. Large corner blocks add strength and anchor the seat.

The desk is made from a plank of bubinga, part of which I bandsawed into veneer for the top. The center drawer is narrow and bows inward to make it more inviting. I carved the pulls on the drawers, and I used birch for the drawer sides and solid bird'seye panels for the drawer bottoms, which make for a pleasant surprise.

When choosing wood for the parts of these pieces, I oriented the grain to follow or complement the shape of the piece. In the chair, for example, the annual rings follow the upward bow of the crest rail. Likewise, the leg stock is cut so that the rings in the end grain point diagonally toward the chair's center, producing similar figure on all sides of the leg. The figure on the slats follows the curve of the back: The slats on the right curve to the right, while the slats on the left flow up and out to the left (see the drawing at right).

In the desk, wood for the edging above the drawer and the frame below it was sawn with the rings curving downward toward the edges. When viewed from the front of the desk, this frown created by the grain follows the inward curve.





An hourglass shape. Chairs are most often seen from behind, especially those made to accompany a desk.

SPECIFICATIONS

DIMENSIONS

Chair: 18 in. wide, 17¼ in. deep and 35 in. high.

Desk: 50½ in. wide, 26 in. deep and 30 in high.

MATERIALS

Cherry, solid bubinga, bubinga veneer, beech veneer, birch and maple.

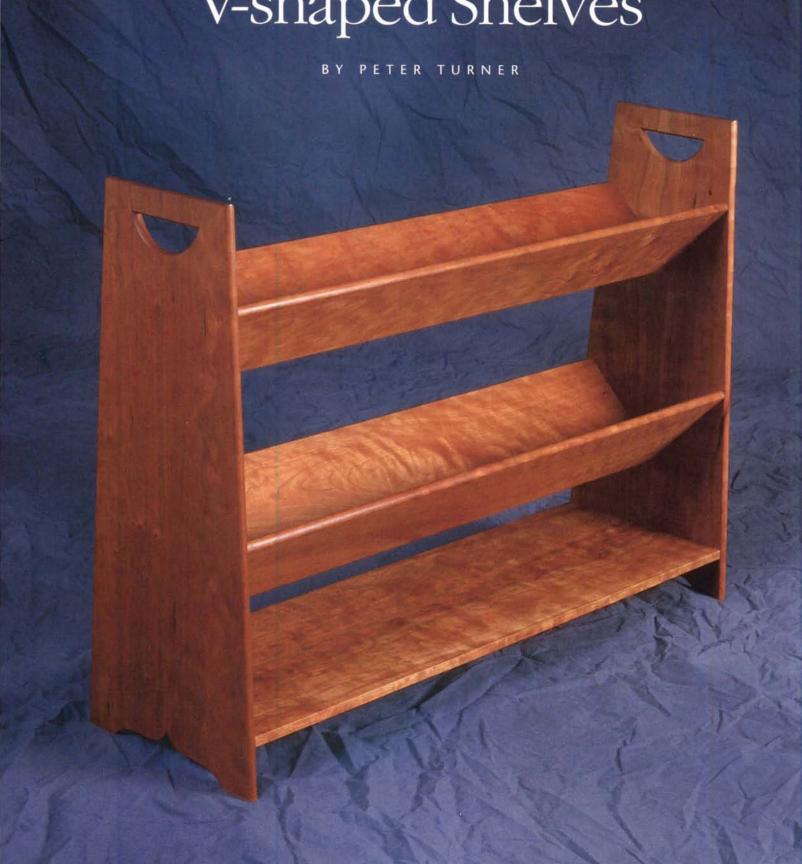
FINISH

Oil and varnish mixture.



Drawer bottoms can move. Slots for screws allow the solid bird's-eye maple drawer panels to move as the humidity changes.

Bookcase with V-shaped Shelves



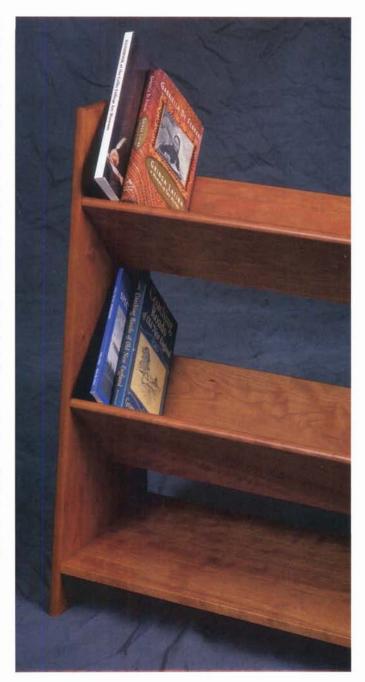
bookcase that once belonged to my great-grandmother and now sits in my father's office was the inspiration for this piece.

The original had once spent a period of time in my aunt's childhood bedroom, and she asked me to build this project. A space in her kitchen between a table and an adjacent wall gave me my maximum dimensions. Because these dimensions turned out to be different from the original, I lowered and lengthened my version. I scaled down the end panels as well, but kept the base width and adjusted the angles to form an appropriate and pleasing trapezoid.

I moved the upper V-shaped shelf as high as possible and the bottom, flat shelf as low as I could to increase storage clearances. The bookcase now serves to keep the kitchen table free of life's daily clutter. I kept the construction simple, using biscuit joints to join the shelves, and finished it with a natural oil (for more information on the finish, see The Finish Line, p. 22).

The new proportions have given this piece a function unforeseen by its original designers. Several of these bookcases, including one in my own home, are now serving as storage racks for compact discs.

Shelving with a V. The author modeled this bookcase after an antique. The V-shaped shelving (right) supports books and CDs upright and makes it easier to read their titles.



SPECIFICATIONS

DIMENSIONS

34 in. wide, 11½ in. deep (tapering to 8 in. at top) and 27 in. high.

MATERIALS

Cherry.

FINISH

Natural oil and resin.

Walnut Writing Cabinet

BY JOHN REED FOX



apanese design was the guiding inspiration for this piece. I want my pieces to be like traditional Japanese furniture and housewares: personal and inviting, evocative of materials and process, but not about technique.

I named this piece the Asato writing cabinet after a customer who commissioned a dresser similar in design, with drawers and sliding doors. That dresser spawned a series of related pieces over the years, so I have continued to use the name of the original commission to describe them.

For the writing surface, I made one of the drawers pull out and fold down. The drawer bottom and the inside of the drawer face, when folded down, produce a desk suitable for light duty, such as paying bills and jotting notes. The writing surface is about 30 inches high, standard desktop height, and the spring-loaded butler's-tray hinges keep the surface flat when open and the drawer front vertical when closed. (For more information about the drop front, see How They Did It, p. 96.)

The chest sits on a stand that has a reveal and an arched stretcher, which I think grounds and lifts the piece at the same time. The top is held off the case with another reveal, which adds to the sense of lift. The frame-and-panel sliding doors provide relief from a flat, repetitive facade. I shaped the pulls out of pau ferro, which resembles rosewood. These carefully detailed pulls and the hand-planed surfaces keep it friendly to the touch.

Desk hidden inside a chest. A blotter can be stored below the pigeonholes (above) and pulled out to cover up the seam in the writing surface.

Double duty. By hiding a writing surface drawer below the sliding doors, this dresser (right) provides functional writing and storage space in tight quarters.

SPECIFICATIONS

DIMENSIONS

36 in. wide, 17 in. deep and 54 in. high.

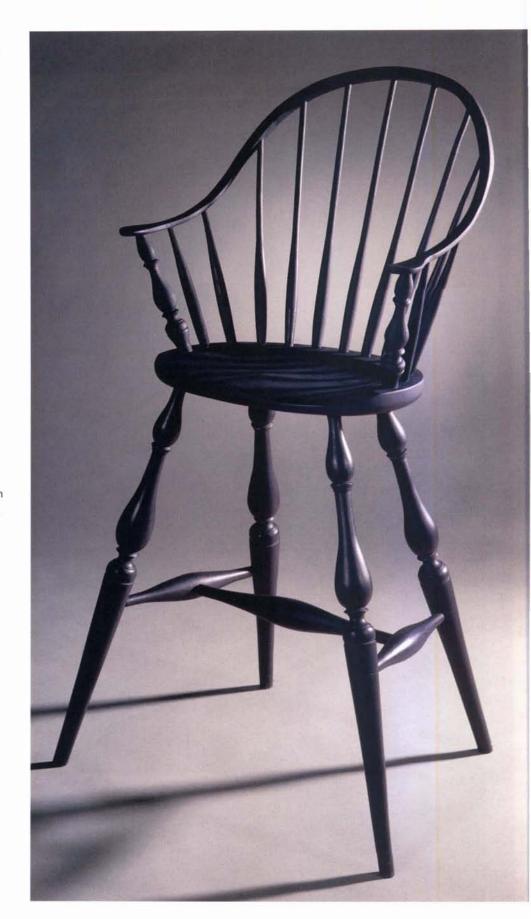
MATERIALS

Walnut and pau ferro, with maple and basswood drawers.

FINISH

Oil.





Fit for a kid. The arms of this Windsor high chair are designed to slide over a tabletop, and a strap attached to the spindles (not shown) keeps a toddler from falling out.

Continuous-Arm Windsor High Chair

BY STEVEN THOMAS BUNN

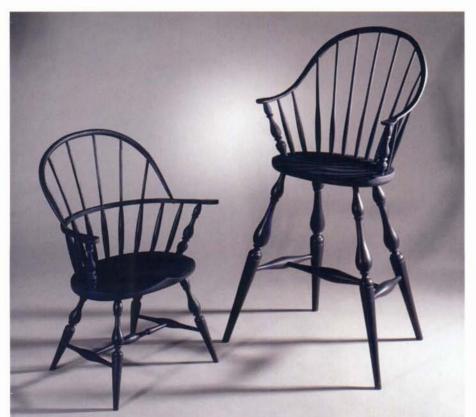
When I decided to make a high chair, I planned to use my patterns for a child's sack-back Windsor chair and simply stretch the legs. It turned out to be a lot more difficult.

To get the seat up to 21 inches, a suitable height for a high chair, I nearly had to double the length of the legs on the children's Windsor. The problem was that this "stretching" made the legs

look thin and spindly. After reading Wallace Nutting's *A Windsor Handbook*, I discovered that the legs on many antique high chairs were based on adult-sized Windsors, with the lower portion elongated and tapered to achieve the required height. I made a second profile and turned a sample leg, but this also left me unsatisfied.

The base and bulb of the legs looked undersized in relation to the taper, but at least I was getting closer. I reduced the diameter at the top of the tapered section and finally hit upon a profile that looked right.

The story doesn't end here, however. The beefier legs made the rest of the design seem too small. In addition, the picture of the continuous-arm Wind-



Small step turns into giant leap. The original idea for this high chair was to make the sack-back children's Windsor with longer legs, recycling existing patterns. As the photo shows, it didn't turn out that way.

SPECIFICATIONS

DIMENSIONS

22 in. wide, 17 in. deep and 39½ in. high.

MATERIALS

Maple, pine and red oak.

FINISH

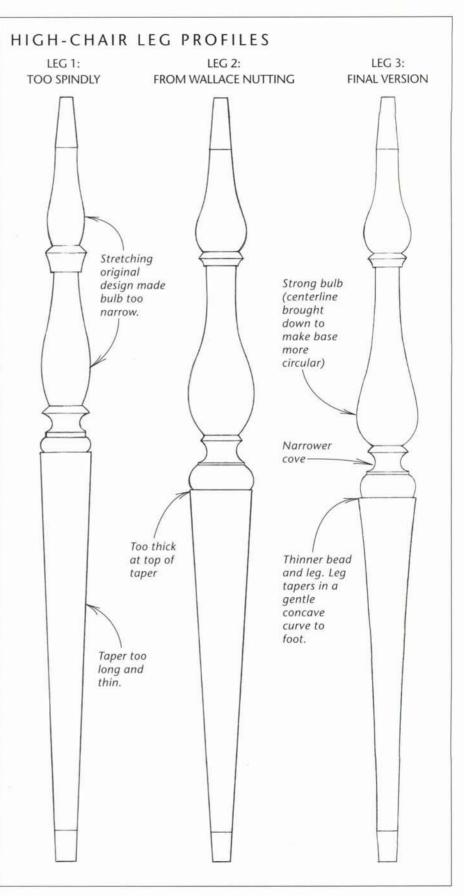
Milk paint and linseed oil.

sor in Nutting's book kept tugging at me. It was clearly prettier than the sack-back I had originally envisioned, so I decided to go with the continuous arm instead. Also, I assumed that I would have to lower the arms to go under a table. A gallery manager suggested raising the chair so that the arms would clear the top of the table, which is the solution I chose.

After many hours of designing an almost completely new chair (I had to forget about using those patterns I had made), the lesson seemed clear: Scaling furniture up (or down) and getting it to look right is a lot harder than it may appear.



One change leads to another. The turned arm posts needed extra girth to match the beefed-up legs. Like falling dominoes, one design change had repercussions throughout.





Sleeping in nature. The author's bed, which drew inspiration from ponds near his home, is inlaid with a butterfly on the headboard and cattails on the footboard.

y idea for this set of beds was inspired by ponds close to where I live. This bed design also has somewhat of a neo-oriental feel to it, with the cattails on one corner of the footboard offset by the butterfly, which spirits your dreams away on the headboard. I made three versions of this bed: one in a mahogany frame, which

A sturdy connection. The solid mortise-andtenon joint between the rail and headboard is buttressed by a threaded bar that cannot be seen after the boxspring is in the bedframe.



A long day's night. The author makes his limited-edition cattail bed in cherry, maple and mahogany. He calls them Morning, Twilight and Night, respectively.





A Florentine butterfly. The butterfly on the headboard is the result of an Italian stone inlay technique, *pietra dure*. It is made with lapis lazuli, marble, river rock and silver wire.

SPECIFICATIONS

DIMENSIONS

86 in. long, 67 in. wide, 42 in. high (headboard), and 31 in. high (footboard).

MATERIALS

Cherry, Chilean laurel, walnut, tulipier, imbuya, purpleheart, black pear, Medite II, lapis lazuli, marble, river rock and silver wire.

FINISH

Tung oil and conversion varnish.



I call "Night;" a maple frame titled "Twilight;" and, featured here, the cherry frame called "Morning." When I create limited editions, I try to use different combinations of wood and stone inlays within the set to make them unique. For the butterfly on the headboard, this set uses a stone inlay called *pietra dure*.

In marquetry and inlay, I find that the process of capturing the image in wood and stone is exacting and exhilarating work, and making the furniture frame the picture becomes the challenge that ties it all together. To be truly successful for me, the designs of the marquetry and the furniture have to be well-balanced, complement each other and work as a whole.

The four posts are slightly curved to give the heavy frame grace. The arched top rail was laminated for economy and strength. All joints are mortise and tenon. The side rails are fastened onto the headboard and footboard with an all-thread insert, which is far superior in strength to any other

concealed-hardware fastener that I have ever seen (see How They Did It, p. 100).

A rough full-size mock-up of the posts and headboard made with tape and cardboard at the start of the drawing process insured that I was on the right track. I then worked out all joinery problems and aesthetic issues by drawing each view to scale and drawing mechanical details full-size before cutting any wood. (For information about the substrate used for the bed's panels, see Sources, p. 106.) Designing in this way, I think through the entire building process and can anticipate problems before they occur. I feel the whole construction becomes more direct, less problematic, and gives me the best results. David Sims, a local furniture maker who trained with me, helped me complete the joinery and assemble the three beds.



Updated Mission Hall Table

BY RICHARD LEBLANC

In spite of all its emphasis on exposed joinery and handwork, most Mission furniture was made in production. I make my furniture in series too, and I've found that working in the Mission style is congenial to production work for a variety of reasons.

Linearity is one of the hallmarks of Mission furniture. I happen to like the linear style for aesthetic reasons, but it is also excellent for its adaptability. Working in a linear vocabulary, I can design a piece and then easily customize it, changing its length, width, or height for any number of customers without changing the essential feeling of the piece.

I also like Mission for its strength and simplicity. Take a good piece of original Mission furniture and you can drop it off a roof and only have to repair the finish. I ship furniture all over the country, so furniture built to stay together under stress appeals to me. And it is straightforward to make, so a solid piece of furniture can be produced for a reasonable price.

Although I admire Mission furniture and draw on it freely for inspiration, I'm not interested in doing reproductions. Instead, I try to design furniture that feels modern, but also seems grounded in history. I'd like to attract customers who wouldn't necessarily be interested in buying antiques. With this table, I did several things to achieve separation from the originals.

First, I avoided oak. Instead, I used burgundy-stained mahogany with a smooth finish to give the piece a less rustic feeling. (For a description of the stain I used, see The Finish Line, p. 22.) In seeking a lighter overall appearance, I dimensioned parts on the thin side and left open spaces on either side of the spindles. And for the drawers I adapted an original pull to create a handle—a scoop in the drawer front covered with an ebonized mahogany crosspiece—that I hoped would give the table a personality of its own.



SPECIFICATIONS

DIMENSIONS

48 in. long, 18 in. wide and 30 in. high.

MATERIALS

Mahogany, mahogany veneer plywood and ebonized mahogany.

FINISH

Aniline dye, wiping stain and catalyzed lacquer.

Permanent loan. LeBlanc saw a hammeredcopper pull on an original Stickley piece and borrowed the design, reworking it with jazzy curves and colors.



Satisfying but not structural. Short corbels below the solid-lipped plywood top and faux through-tenons give this table the texture of a Morris chair.

China Hutch in Honduras Rosewood

BY MONROE ROBINSON



No, not a secret shelf. The lower shelf is raised to the level of the door's bottom rail so objects aren't obscured by the doors, a solution the author learned from James Krenov.

photograph of a cabinet made by the Swedish furniture designer Carl Malmsten, which I discovered while studying under James Krenov at the College of the Redwoods, inspired this design. The cabinet in the photograph was painted with a floral pattern and was much more delicate than this hutch, but it was a beginning and a focus. I ultimately arrived at something quite different.

The details evolved as I sketched and later as I worked with the beautiful

rosewood. The asymmetric, eyebrow-like curve at the top of the door frame got its shape from the wave in the grain. I wanted the base to give the piece a grounded look, which I think is accomplished by the bulging, curved plinth and cabriole legs. By the same token, I wanted the upper part of the cabinet to have upward movement, or "lift." To achieve this, the cove molding at the top of the cabinet projects out more than down, while the lower cove

(between the upper and lower cabinets) projects up more than out. These are subtleties, but I think such details produce an overall grace.

I originally envisioned rosewood shelves, but I discovered when I mocked up the shelves that the shadows would be too severe. I didn't like the look of glass edges, though, so I made the shelves with beveled glass set into a rosewood frame. (For information about the carved pulls, see How They Did It, p. 101.)



Grain dictates the design. The author started with sketches but let the wood itself form the details, such as the eyebrow-shaped door rails that follow the curve of the growth rings.



Stepping out. The cove and ovolo moldings separate the two halves of the hutch.

SPECIFICATIONS

DIMENSIONS

 $43\frac{1}{2}$ in. wide, $16\frac{3}{4}$ in. deep and $72\frac{1}{2}$ in. high.

MATERIALS

Honduras rosewood veneer, rosewood, maple, pecan, doussie, plywood, glass and brass.

FINISH

Shellac and Goddard's wax.



Stripped-down sideboard. For a small dining room, a less-imposing server may be more fitting than a full-bore sideboard.

Hepplewhite Server

BY JAMES HOOPER

sideboard is often a massive thing. In a small house like mine, the dining room would be overpowered by a seven-foot sideboard with doors and stacks of drawers. So when I decided to make a piece for my dining room I modeled it after a server instead of a sideboard.

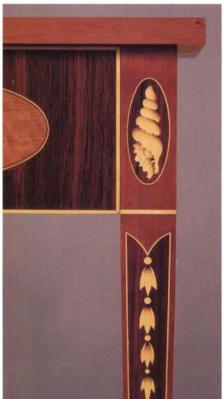
I based my piece on a drawing that appears in George Hepplewhite's Cabinet-Maker and Upholsterer's Guide. In Hepplewhite's day, a well-appointed dining room would have had a server or two as well as a full sideboard. The servers were used as a staging area for food and dinnerware, the sideboard for storage as well as staging. That breakdown of function was clear in the Hepplewhite piece, which had no drawers at all. I wanted some storage, however, so I increased the skirt to accommodate drawers. I beefed up the thickness of the top to keep it looking about the same in relation to the larger

Hepplewhite's drawing shows a carved urn and flowers flowing across the skirt and also carvings on the legs. I toned this down, although not nearly as much as I thought I would. My first impulse was to decorate the piece with simple string inlay on the legs and drawer fronts.

The escalation started when I decided to inlay bellflowers on the legs—not

a big departure from my plan. But then I found I needed something above the bellflowers. Hmm. I inlaid the conch shells. Then I saw that for balance I needed something in the center of the skirt, so I replaced Hepplewhite's carved urn with one in marquetry. Such are the benefits of designing as you go.





Adopted urn. Hooper's sand-shaded satinwood marquetry urn is based on one on a linen press by Federal-period Annapolis cabinetmaker John Shaw.

Tennessee Hepplewhite. Taking his cue from old Tennessee and Kentucky Hepplewhite pieces, Hooper used cherry as a mahogany substitute and paired it with rosewood. The conch shells and bellflowers are satinwood.

SPECIFICATIONS

DIMENSIONS

501/2 in. long, 21 in. wide and 35 in. high.

MATERIALS

Solid curly cherry, cherry, tacho negro and veneers of satinwood, holly, Brazilian rosewood, walnut and quartered sycamore.

FINISH

Orange shellac.

Photos: Gary Woods SUMMER 1996 65

Lacewood Stereo Cabinet

BY PETER BARRETT



tural references were among the things on my mind as I designed this cabinet. I came to furniture from a background in building, both driving nails and drawing plans, so I suppose all my furniture comes through architecture.

The leg design has a hint of a medieval cathedral in it. I've always liked the buttress—a vertical spine jutting out from a wall to brace it—as an appealing expression of a building's structure. I designed the legs of this cabinet so they'd stand out from the carcase in a similar way. Cathedral buttresses were often angled at the top to shed water, and I've picked up that detail here, making the legs seem even more distinct from the body of the cabinet. I amplified the effect by using an undercut bevel on the rosewood edge of the top.

Still, I doubt that this piece is going to remind anyone of a medieval cathedral. Maybe that's because I'm most at home with the minimalism and planar geometry of International Style architecture, and those ideas are at the heart of most of my furniture designs.

Structural honesty is one attribute that links the medieval with the modern.

and I try to design so the details express the structure of a piece. With this cabinet, in addition to having the legs distinct from the case, I gave the doors a small chamfer around the perimeter. The chamfer cuts right through the lacewood veneer to the maple banding. I hoped this would lighten the piece, emphasize the flatness of the surface and be a reminder that it's veneered.



Rosewood gemstone. The author's interest in jewelry is reflected in the faceted and polished rosewood surfaces.

SPECIFICATIONS

DIMENSIONS

48 in. wide, 18 in. deep and 35 in. high.

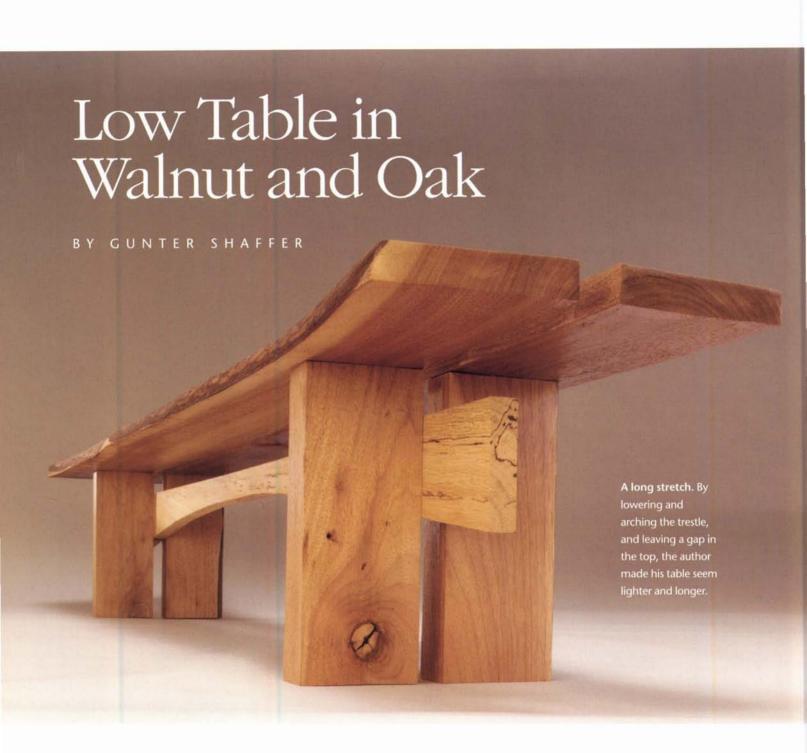
MATERIALS

Rosewood, curly maple and lacewood veneer.

FINISH

Blend of tung oil and polyurethane, wax.

Building blocks. Architectural influences from medieval churches and the International Style come together in this lacewood and rosewood cabinet.



building furniture, the greatest enjoyment comes from refining and simplifying the design before construction begins. This long, low table borrows from the early American trestle table and the Asian garden bench. The arc of the bowed trestle expresses a sense of loft and span, while the gap in the top

makes it wide enough to be functional. The overall effect is one of simple repose and balance.

My goal was to create a table for artwork, mostly photos and small pieces of sculpture. The first design decision was that the piece be long, low and unobtrusive. The next criterion was that it be traditional, yet also contemporary: choosing simple expressive lines over intricacy and ornament.

These requirements brought to mind the early American trestle table, which expresses strength, construction and stability. If I could take this form and



SPECIFICATIONS

DIMENSIONS

66 in. long, 11 in. wide and 10 in. high.

MATERIALS

Walnut and oak.

FINISH

Water-based polyurethane.

Not as strong, but does its job. As originally designed, an oak trestle flush with the top would have provided contrast and strength, but it nearly disappeared and so it was lowered.

It looks like a bench, but it's not. The author borrowed elements of an Asian garden bench, but this is a low table, designed for displaying photographs and small pieces of sculpture.



stretch it, I thought, the proportions for a low table might work, while perhaps producing a contemporary form.

Originally the oak trestle's top was to be flush with the walnut top of the table: the color contrast would have made a nice joint, the extra width would have made a skinny top just wide enough and the table would have been stronger. But by dropping the trestle $2\frac{1}{2}$ inches, it became more visible from the side without becoming oversized. And the gap it left in the top made the table seem lighter and longer.

The arc in the bottom of the trestle made the table look lighter. At the same time, the legs could have been closer to

the table's end, but I wanted the top to stretch past them, as a tree limb or rock ledge might. If this piece is deemed beautiful, perhaps that is because it vaguely mimics the economy expressed in nature.



Mackintosh and the machine. The author's furniture blends efficient construction techniques with stylistic influences from the turn of the century.

Upholstered Dining Chairs

BY LORNA SECREST

Jou can see something of the geometric Art Nouveau style of Charles Rennie Mackintosh in these dining chairs and also something of the Arts and Crafts work of Frank Lloyd Wright and the Greene brothers. But the way a piece looks is only half the story. The way it's made is the other half. Success for me is finding details that are aesthetically pleasing but also allow for efficient construction.

The back of the chair, for instance, includes details that contribute to the Arts and Crafts look while making the chair easier to build. The bridle joints between the crest rail and the back legs and the way the bottom stretcher is inset make the joinery and sanding less

difficult by avoiding flush surfaces. The decorative pegs, reminiscent of Greene and Greene, hide screws that pin the tenons. The sprayed finish I use has the subtle appearance of a rubbed finish but the hardness of lacquer (see The Finish Line, p. 22).

The upholstery fabric does double work where it is wrapped around the sides of the back panel and fastened with a welt. The panel is made from bent-laminated plywood, and the fabric covers the plywood's raw edges. And having this line of fabric visible from behind helps integrate the front and back of the chair.

As with any chair, this one's comfort is derived from the curve of the back and the angle of the seat. To achieve angles more easily, I make the seat and front legs in one unit and build the back of the chair separately. This allows the curve of the back legs and back panel to extend below the seat uninterrupted by the line of a seat rail. It also lets me make the back narrow while the seat remains wide for comfort.





DIMENSIONS

19 in. wide, 20 in. deep and 44 in. high.

MATERIALS

Maple, bird's-eye maple, bubinga and cotton fabric.

FINISH

Sherwin-Williams Super Kemvar C, a catalyzed clear vinyl spray-on finish.



Art meets craft. Offset surfaces evoke the Arts and Crafts aesthetic and simplify construction.





Reflected curves. The curved pear top on this game table mimics the curve in the aprons. The sawn pear veneer of the top stands proud, and is set off by a bead of ebony. The rounded shape of the legs also appears in the bottom edge of the tabletop.

Pear and Walnut Game Table

This table borrowed details from a number of pieces I had done previously, while adding a new element in the curved, raised top panel. I enjoy the softness and grace that gentle curves lend to a piece, and I often use curved aprons in my tables. The idea for this top stemmed from the apron shape, as a way to relate the top of the piece to the sides.

The design didn't start out that way. I had planned to inlay the pearwood top panel flush with the walnut frame. After resawing the highly figured pearwood board into eighth-inch veneers, I placed them on the mocked-up frame and liked the effect produced by the proud veneer. An ebony bead created a transition between the different woods as well as the different levels. An interesting illusion is created by the curved panel; the straight edges of the top seem to curve as well.

I rounded and tapered the legs to keep the profile light. In furniture design, one thing often leads to another. In this case, the shape of the legs led to the choice of the quarter-round for the underside of the top edge. I often use an ebony "foot" on my tables as an interesting detail and to give the illusion of raising them off the ground. In this table, the ebonized pear foot ties in with the ebony bead in the tabletop. The foot is reduced in diameter from the leg, creating the effect of the table standing up on its toes.

Drawers often add a hidden element of interest. The hand-cut dovetails provide graphic detail, while the suede pigskin liner creates an interesting juxtaposition of texture with the finished wood. It also serves as a good place to store a deck of cards.

FRAME AND PANEL TABLETOP The central panel is pear over medium-density fiberboard, surrounded by a walnut frame. Sawn pearwood veneer Ebony bead Walnut frame



Inviting edges. The pear veneer panel is curved so the edge of the table appears to bow. The drawer lining is pigskin.

SPECIFICATIONS

DIMENSIONS

34 in. square and 29 in. high.

MATERIALS

Black walnut, steamed Swiss pearwood, maple, ebony and pigskin.

FINISH

Lacquer and wax.

Bed with Simplified Linenfolds

BY ALICE ROTH-SUSZYNSKI



on armoire that I designed and built for a local "Design in Wood" competition needed a companion piece to complete my entry. I felt a bed would set off the armoire nicely. But after sketching a few ideas, I realized that some of the lines of the armoire wouldn't be right for the bed. I wanted to keep the armoire's leg shape on the bed, but the shape of the rail on the

headboard and footboard eluded me.

One weekend my family took a trip to Pasadena to see the Gamble House, designed by Charles and Henry Greene. With sketchbook in hand, I wandered through the incredible home, hastily drawing as I walked so that I could recall the wonderful lines

and proportions of the house and its furnishings. Repeated throughout is a motif known as the cloud lift, a form long used by Asian craftsmen. On the ride home I realized the cloud lift—or my interpretation of it—was just what was needed to create an interesting headboard for my bed. On the panel between the headboard and footboard



Greene and Greene inspired. A family weekend trip to Pasadena's Gamble House, designed by Charles and Henry Greene, provided the cloud-lift pattern for the headboard and footboard (left).

rails, I copied a detail from the drawers of the armoire: a simplified linenfold

moire, which I had believed to be the better piece-that won first place in the contemporary furniture division of the show.

SPECIFICATIONS

DIMENSIONS

86 in. long, 63 in. wide and 45 in. high.

MATERIALS

Cherry and red oak.

FINISH

Tung oil.



Writing on the road. This secretary is modeled after a traditional campaign chest with a fall-front desk. Campaign chests were used by military officers as both luggage and furniture.

A Modern Campaign Chest

BY LES CIZEK

The campaign chest was in common use by French and British military officers in the 18th and 19th centuries as they traveled about the world. Years ago I saw an 18th-century French campaign chest in a New Orleans antique store. The bottom section was a small chest of drawers for the officer's clothes. The top case was fitted out as a secretary, where I imagined the owner spent his evenings by candlelight writing battle memoirs and long poetic love letters to his lady.

It looked wonderfully efficient and well-traveled. The drawers, when opened, had the sharp tang of camphorwood. I later learned that campaign chests were frequently made of teak. I knew one day I would build one of these curious combinations of luggage and furniture.

I wanted my version to have a traditional exterior yet be full of surprises when opened. The teak casework is veneered and the exterior looks stolid and masculine. Opened, the curly maple interior is bright, feminine and complex. The white oak stand, decidedly nontraditional, gives the piece a commanding presence; only the playful brass and ironwood pulls hint at the lighthearted interior.

Eighteenth-century furniture often had secret compartments; I built one behind each of the removable cubbyholes. I made these cubbies in the traditional manner, by dovetailing together ³/₃₂-inch maple and sliding the dividers into V-grooves where they are glued and pinned into place.

Automatic lopers support the fall front. A pair of arms pull the lopers out as the front lowers into writing position. These lopers were a puzzle to make—I had to build a full-scale working mockup in ¾-inch plywood. The loper arms are made of brass and teak veneer. (I pierced the brass to form small bridges so the epoxy glue con-



Playful drop pulls. The author made these tapering brass and ironwood pulls to break up the straight lines of the chest fronts.

nects wood-to-wood.) The lopers work so smoothly that one is unaware of their presence. (For more about the automatic lopers, see How They Did It, p. 97.)

The graduated proportions of the cabinet are based on the golden section (the front views of the lower cabinet and fall-front desk are both golden rectangles). I no longer use that device in my work; James Krenov, my teacher at the time, gave me the courage and confidence to trust my eyes.



DIMENSIONS

 $25\frac{1}{2}$ in. wide, $14\frac{1}{2}$ in. deep and $56\frac{1}{4}$ in. high.

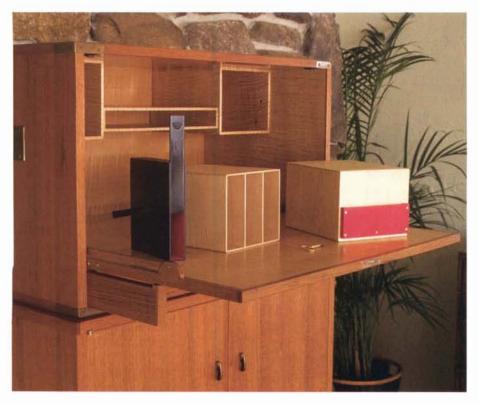
MATERIALS

Teak and maple veneer, plywood, white oak and brass.

FINISH

Oil (exterior) and shellac (interior).





A low-profile desk. The writing surface is supported by lopers that automatically extend when the fall front is lowered. The interior is curly maple.

Keeping secrets. Most secretaries have hidden compartments. In this case, the hiding places (the black box and fuchsia slot) are behind removable cubbyholes.

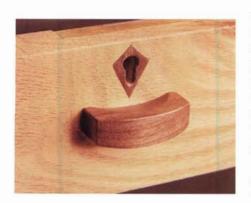
Arts and Crafts Bonheur du Jour

BY STEPHEN LAMONT

2n 18th-century France, *Bonheur du jour* was the term used for a lady's writing desk, one with a drawer or two underneath and a raised portion at the back for storing paper, small books, journals and writing accessories.

My design concerns were first of all for structure and function—that the desk should be light but sturdy, that it be comfortable for writing and that it





Impact in the details. Walnut pulls and escutcheons dress up red oak drawers.

provide adequate storage for writing materials. I made sure there would be enough desk space to write with a pad turned diagonally, as most people do, and that the drawers and cubby holes would take the various standard sizes of writing paper and envelopes.

Then it was a matter of putting these pieces together in a way that looked right to me. With a *bonheur du jour* it is important to tie the desk and gallery together visually. It is a wonderful furniture form, but it would be easy to make one that looked like an uncomfortable hybrid. I played with a number of features in an attempt to unify the two parts of the piece.

As part of that attempt, I added a top to the dovetailed carcase of the gallery. With its overhang, that top board acts as a cap for the gallery just as the writing surface caps the desk. The two tops are further linked by their both having slightly curved edges along the front and sides and by having identical edge moldings worked into them.

Wood selection and grain matching further helped to bring the various elements of the piece together. I bookmatched the rails and stiles of the doors and also the panels of the back, and cut paired drawer fronts from the same plank.

The two drawers below the desk top accentuate its horizontal mass, and I tried to attain the same effect in the gallery by placing its small drawers at the top. This slightly compromised their function, since they'd be harder to see into if one were seated, but I felt it was a necessary trade-off.

In an otherwise simple design, black walnut pulls and escutcheons and the beveled glass door panels

SPECIFICATIONS

DIMENSIONS

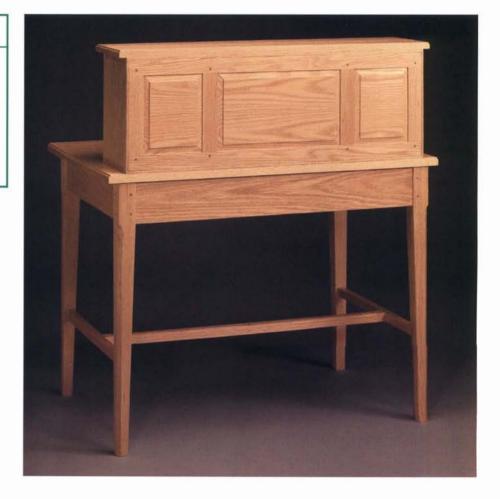
38 in. long, 23 in. wide, and 42 in. high.

MATERIALS

Red oak, black walnut, yellow poplar, glass and brass.

FINISH

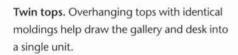
Clear french-polish sealer and wax.



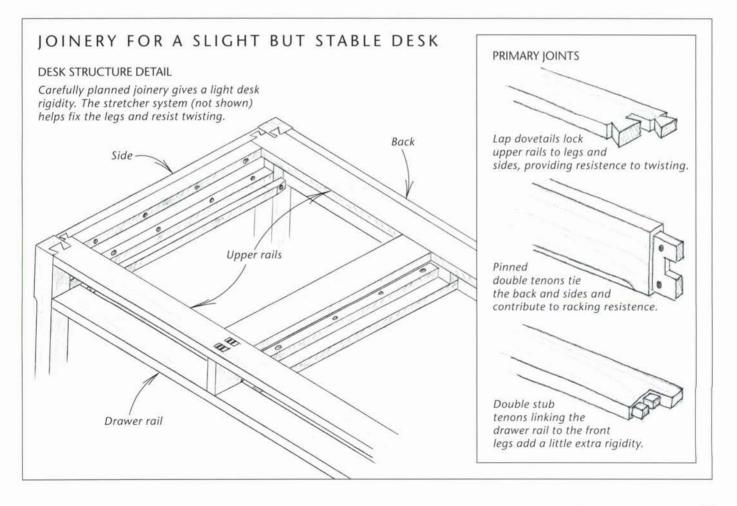
Just as good in back. Exposed joinery and unremitting fine craftsmanship are evidence of the author's Arts and Crafts training in England.

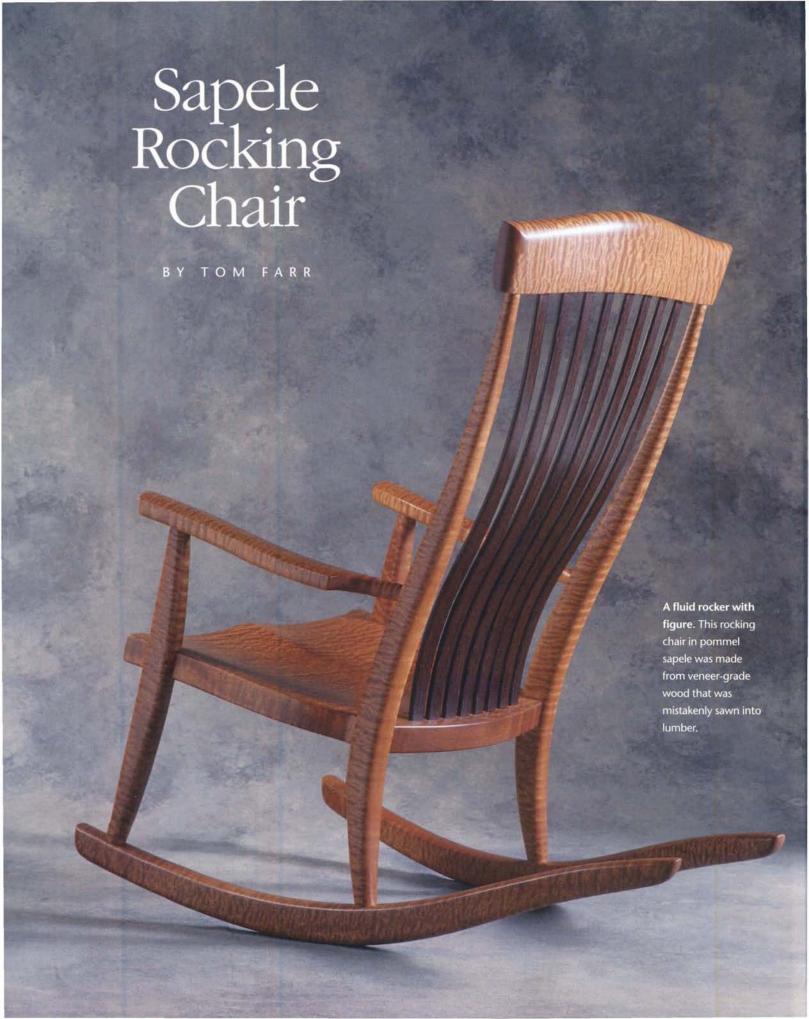
provide suggestions of elegance. The glass panels also open up the center of the piece, making it appear lighter, yet more complex.

A chamfer on the outside edge of each leg softens them and reduces their visual weight considerably without removing much stock. The leg chamfers, along with the chamfers on the door frames and the exposed dovetails of the writing box are subdued ornaments that reflect my training in an English workshop and the quiet design vocabulary of early British Arts and Crafts.









got a call one day from Craig Kelly of Crosscut Hardwoods in Portland, Oregon: "There's some wood here you are going to want to check out." What I found when I got there was astonishing—2-inch thick, 16-foot long boards of pommel sapele. This was some of the finest wood I had ever seen, and even though my budget for materials could hardly allow it, I bought two of the fantastic, figured planks.

The pommel sapele, an African mahogany with incredible quilted grain (see Sources, p. 106), had been slated for the veneer mill but was mistakenly sawn into lumber. I thought it would

be well-suited for the rocking chairs I make. The sculptural nature of the design would show the striking figure of the grain from different angles.

Although tricky to machine because of its alternating grain, pommel sapele is strong and stable—a good material for a rocking chair. I used the widest sapele board for the two-piece bookmatched seat. The seat is scooped and the slats flex a bit, giving the chair enveloping comfort. The curve of the rockers does not change throughout their length, so a person with long legs leaning back rocks on the same curve as a person with short legs.



SPECIFICATIONS

DIMENSIONS

24 in. wide, 42 in. deep and 42 in. high.

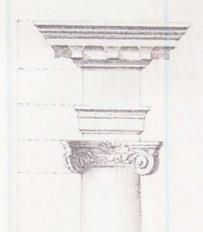
MATERIALS

Pommel sapele and wenge.

FINISH

Satin lacquer.

Fit to the human form. The design of this rocker evolved from one with four slats to an eight-slat version in which the lower lumbar curve was accentuated and strengthened.



Designing with Dividers

Ancient proportioning methods guide a modern craftsman

BY TIMOTHY S. PHILBRICK

When I try to describe a piece of furniture with good proportions, I immediately think of the Newport secretaries that were made in the 1750s. The careful layout of the immense facades on these masterpieces might be called the definition of balance and harmony.

The success of these revered pieces is not accidental. They were made by craftsmen who learned to build furniture using classical proportioning systems. Some of these systems, drawn from nature and religion, have been with us for 5,000 years.

I apply these classical principles to my work in not very mysterious ways and with nothing more intimidating than a set of dividers. Some pieces I design may have simple relationships, like a sofa that is twice as long as it is high. Others, like my secretary, have layers of relationships in which parts are multiples or fractions of other parts. The point is not to be simple or complex, but to design a piece in which the dimensions seem natural and harmonious.

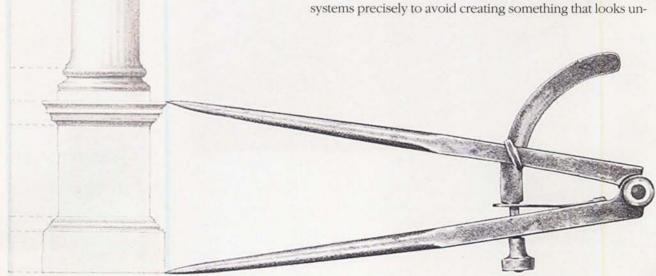
Some designers view proportioning as a closed system of rigid rules and complex math. To me, proportioning is the opposite of this—a way to create a framework upon which to build a design. It opens up possibilities, rather than restricting them.

AN ANCIENT MATH

It is true that many proportioning systems have acquired degrees of complexity, but the basic principle is simple; in order for a piece to be balanced and harmonious, each part must relate to the whole.

We respond to relationships like this (they look "right" to us) because they connect the man-made to the natural world. For example, one of the oldest and most revered proportioning systems, the golden section, is a mathematical construction that can be found in the arrangement of leaves on stems, the spirals of sea shells, galaxies and the human body (see the drawing on p. 86).

Designers, especially architects, have used proportioning systems precisely to avoid creating something that looks un-





A masterpiece reinterpreted. Modeled after an 18th-century Newport secretary, the shape of this piece is based on the capital of an Ionic column (shown on facing page). The top bows out and the base becomes more concave as it nears the floor.

The upper case is one module taller than the desk.

PROPORTIONING A SECRETARY The height to width ratio of the lower desk section is 1:1.

natural. The art and architecture of ancient Egypt, Greece and Rome all made extensive use of the golden section. The facade of the Parthenon, for example, fits within a golden section rectangle.

Perhaps the most elaborate and widely studied proportioning systems are the five classical orders of architecture developed in ancient Greece and Rome. Although designed as a set of rules for architects, the orders of architecture became a

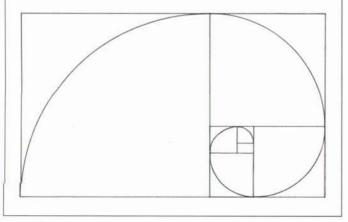
proportional framework for furniture designers beginning in the Renaissance. Both Thomas Chippendale and Thomas Sheraton began their 18th-century design books with elaborate studies of the five orders. Sheraton devoted 30 pages to

At the root of the five orders is the idea that all parts relate to the whole. A Doric column, for instance, is roughly 8 times the diameter of the base of the column. The Corinthi-



A REVERED PROPORTION

Found in nature and used in art and architecture, the golden section is a classic proportion. Each of the rectangles below has the same proportions (i.e. the width to length ratio is 1:1.618). The spiral drawn within them is found in nature, such as in the pattern of the shell above.



an column, by contrast, is more slender but still related to its parts (about 10 times the diameter of the base). The moldings, bases and capitals are all minutely proportioned for each order. Each section is measured in units that are fractions of the whole.

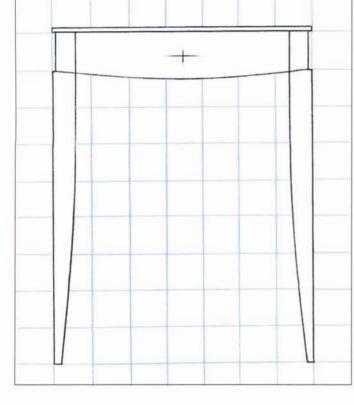
MEASURING BY MODULE

I work much the same way when I design furniture, although I don't necessarily proportion my pieces as if they were buildings. In furniture, the ratios of height to width to depth are the first relationships to resolve, and the human body usually will determine at least one of these measurements. For example, most of us find chair seats of about 17 inches high comfortable and dining tables of about 30 inches high appropriate.

The remaining dimensions are often dictated or at least suggested by space, tradition or function. But by using simple proportioning methods, these dimensions can be made to relate to each other in both a visually pleasing and a mathematical way.

AN EXERCISE IN PROPORTIONING

These tables (shown at right) are similar in design but done to different proportions. The author divided the height of the apple table into 9 equal modules. The apron height is one module, and the table's width is 7 modules.





Empty your pockets. This *vide poche* in apple, designed to hold the contents of a person's pockets, is a variation on the proportions and materials of its ebony relative, below.

I establish proportions by using a grid or a series of boxes to sketch within. I usually start with a cube or a rectangle that conforms to the general shape of a piece I am working on. This rectangular shape can have a simple relationship (a height to width ratio of 1:2 or some other whole number) or a more complex one (perhaps a golden section).

To determine dimensions inside the rectangle—a table apron, for example—I sketch by eye, guided by what looks right to me. Then I divide one of the dimensions (usually the height) into any number of equal parts that come closest to a size I need. For instance, if the apron height looks appealing somewhere around one-sixth of the distance from the table top to the floor, I will divide the height into six segments to arrive at the apron height.

These segments, or modules, can become the units of measurement for other parts or even for the rest of the piece. As I design, I have a feeling for the look I want and I try to use one of the established dimensions to achieve this look and maintain harmony and balance. As the piece unfolds, I no longer think in inches, but in modules.

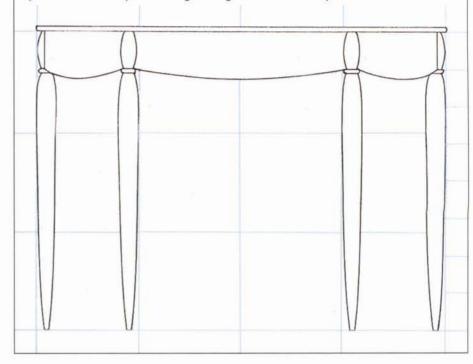


Similar design, different proportions. This vide poche, in ebony with a satinwood top, is twice as tall as it is wide.

All done with dividers. The height of this curly maple demilune determined the other proportions. The turned rings on the legs are meant to support the swag of the aprons.

A MODULAR TABLE

Two modules are at work here. The height to width ratio is 3:4, with each segment, or module, equal to just under 10 inches. The height was divided again into eight equal segments, with a module just under 3¾ inches, to determine the placement of the apron and leg turnings. The width to depth ratio is 2:1.



The demilune table that I designed (see the photo and drawing above) is a good example of this technique. The rectangle that I started with has a height to width ratio of 3:4 (this is a pleasing rectangle which approaches a golden section). The width to depth ratio is 2:1, another simple and familiar shape.

Next, I had to determine the placement of the two center legs along the curved front. Too close together, and they would look rigid and uniform. Positioned further apart, and the center apron would look too wide. They looked best to me when the negative space between them (when viewed from a standing position) somewhat approximated a square. Since the piece is four units long (from the 3:4 ratio), I used those divisions for the leg placement to produce the central field of negative space. (I placed the legs to the outside of these dividing lines.)

Finally, I needed to establish the exact height of the apron to finish off the negative space. I also needed this dimension to shape the turned leg. I did this visually, deciding that the right height was about one-eighth of the way down the leg. That became another module. To get measured drawings, all I needed was the height of the table (29½ inches, predetermined by its function) and all the other dimensions fell into place. By designing this way, a module, or often a multiple or

fraction of a module, can steer a designer along more easily than playing with a ruler.

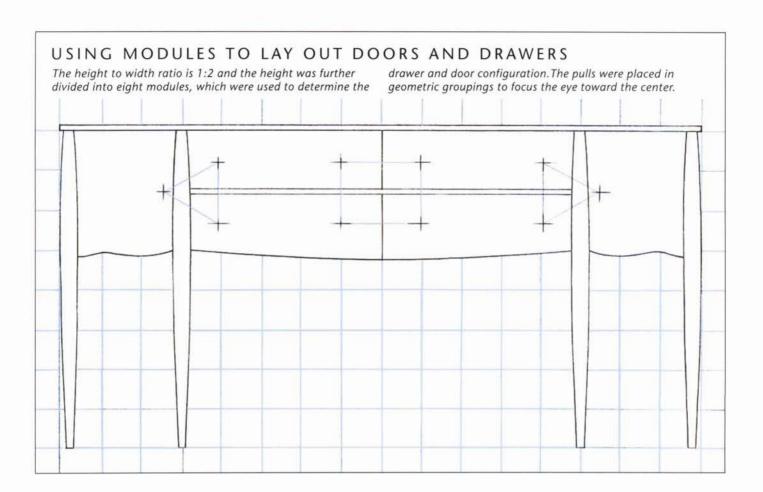
CALCULATORS CAN'T DESIGN

Proportioning, of course, is not the sole ingredient of good design. There is an instructive story about Kaare Klint, the great Danish designer and proportioning advocate, who received a commission to design a church. He went to work relating everything mathematically and ended up with impractical doors that were two feet wide.

Clearly, using these relationships doesn't mean I will produce a good piece of furniture. On the other hand, if the proportions are clumsy, no amount of decoration or fancy materials will make a piece look graceful.

For me, proportions are a framework for designing and should not constrict the creative process. I don't analyze every relationship mathematically, and along with these proportioning methods I also make full-size patterns and models as I design. Important considerations such as grace, delicacy and strength must come from one's visual sense, not from a calculator.

Timothy S. Philbrick designs and builds furniture in Narragansett, R.I.





Art Deco inspired. This plantation-grown ebony sideboard was designed in part as a response to a famous 1919 Jacques-Emile Ruhlmann piece. The four central drawers are flanked by two doors. The sideboard is twice as long as it is high.



A Family of Furniture

Common elements unify a design

BY DARRYL KEIL

esigns, like music, build rather than appear. When I design furniture, I start with one or two simple ideas that blossom into a theme. The theme unifies the furniture and, as in music, it can be varied to make each piece original yet part of a larger whole. Designing this way is a little like stealing from yourself—just look at what you have already done and recycle the ideas into different forms. My goal is not to

make a set of furniture that looks alike, but rather to create individual pieces that are related, like a family.

Using common elements in design is not a new idea. Growing up in New England and working in many older homes, I have noticed the repetition of architectural details. A molding in a window casing, for example, might reappear half as big in the panel of a door and twice as large in a crown

molding. I have seen a detail repeated three or four times in a fireplace mantel or a fancy staircase.

In my own home, built around 1790, a simple half-round bead was used throughout, a common appointment of the period. This detail appears in the window moldings, door casings and crown molding; it's just one small way in which the rooms are related and unified.

When I was asked to design this dining set, I approached it the same way. The clients live in a beautiful old schoolhouse that had been converted into large condominiums. The room was spacious and unconventional, an unusual space to fill with furniture. The interior was clean and simple so my furniture did not have to blend with any particular style.

THE CHAIR SETS THE STAGE

Getting started is always an uphill battle for me, and this dining set was no exception. I started with the set of chairs. An arched window in the dining room inspired the curved top on the back of the chair. Although they add considerable cost and headache to any piece of furniture, I enjoy the drama of well-placed curves. I felt the curved chair would play off the arched window and give me an excuse to include my favorite design element.

I decided to use the five slats that make up the back support of the chairs as another theme to modify and



Echoing arches. An arched window in the dining room inspired the curved crest rails of the chairs and was repeated in the curves of the table and buffet.



Mirror images. The slats and curves on the dining table (above) mirror both the chairs and the buffet. The beveled edge originated with the table but was carried back to the crest rail on the chairs.

Dressing up a design. This sap burl inlay (right) doesn't just add spice to the tabletop. It also relates to a similar detail on the chairs: the curved receiving pocket for the slats.

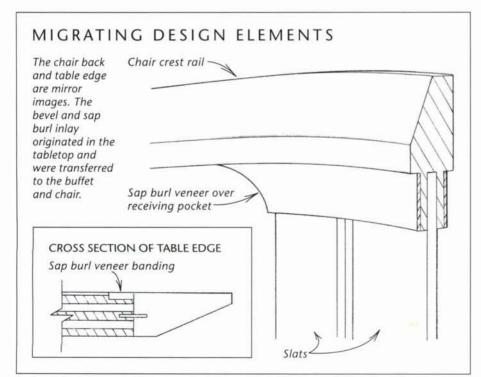


adapt. In the beginning, the slats were less an aesthetic decision than a practical one (the laminated slats flex comfortably, conforming to the sitter's back). But they also produced an interesting foundation for repetition and variation. Slats and curves became the dominant features but not the only repeating elements.

TRANSFERRING THE DETAILS

Armed with these two features as a starting point, I designed the ends of the dining table and the front of the buffet to pick up the curve. I put a wide, sweeping arc on each end of the 8-foot dining table. Because the buffet faced the end of the table, a bowed front seemed natural, creating a mirror effect with the table.

A buffet, if it is to be at all practical, can be a sizable chunk of furniture. I wanted to keep this one from looking too bulky, so I took the slats from the chairs and used them for the doors as well, instead of solid panels. This gives the buffet an airy look (without exposing its contents) and it makes a stronger connection between the chairs and the buffet. From there I moved back to the table to figure out the base, which by this time came rather easily. Just as the top of the buffet mirrored the top of the table, it



seemed natural to take the doors from the buffet, build them up to support the table, and mirror them back.

Because the veneered tabletop required a substantial solid edging, I wanted to reduce its mass. I decided to put a large bevel on the underside, creating a knife-edge profile. This detail is picked up as a bevel on the curved top rail of the chair and is also carried through to the edge of the buffet top (see the drawing on facing page).

DETAILS DRESS IT UP

With the basic design in place, I began to add what I call "dress up" details: elements that do not affect the size or shape of a piece. This can be tricky territory and I try to be sensitive to the surroundings and the personality of the customer. Sometimes a dungaree look is as far as I'll go. Other times, I dress the furniture up in a coat and tie, or even a tuxedo if the situation calls for it. In this case, it was somewhere in between: a comfortable, casual feel with small, carefully placed details.

In the table top and buffet, I inlaid a half-inch banding of walnut sap burl with an ebony border between the veneered top and the solid edging. I carried this element over to the chairs by veneering the top and bottom of the receiving pocket for the slats with the same sap burl.

This transfer opened up another possibility. Because the receiving pocket on the chairs sweeps away from the curved crest rail, I went back to the tabletop and recreated this detail by adding a sap burl inlay that sweeps away from the curved table edge, ending in a point as it approaches the center (see the bottom photo facing page). Just for fun, I continued the line with a gradually decreasing series of ebony dots.

IT'S ALL IN THE PULLS

The last item to design were the pulls for the buffet doors, which I usually have to make because there are few commercially made handles that seem to go well with my furniture. The pulls are a good example of the snow-balling that happens when a theme is created and repeated (see the top photo below). Rather than struggling to come up with a unique handle, I tried to combine some of the elements I already had down on paper: walnut and sap burl, ebony accents and gentle, sweeping curves. By the time I got to them, the pulls almost designed themselves.

To make the pulls, I took two pieces of walnut sap burl veneer and sandwiched a piece of ebony veneer between them. This became the body of the pull (a condensed version of the banding inlay from the dress-up detail). I glued two solid, curved strips of

walnut onto the veneer sandwich, making an outer rim, and I gave the pulls an arc that goes all the way back to the arched window. Finally, I put a slight bevel onto the solid walnut edges of the pull, picking up the beveled profile on the table top and at the same time adding a handy lip, making them easier to grab.

Not only does this repetition relate each piece to itself and the whole, it helps tangibly to create furniture that makes sense. Good techniques for designing furniture are just as important as the skills needed to make it, and building on a theme is one of the techniques I use to make the struggle a little easier.

Darryl Keil is a furniture maker in Brunswick, Me.



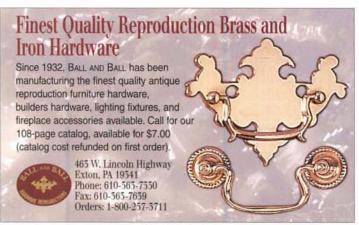
The theme distilled. The pulls contain almost all the elements of the theme: a gentle arc, sap burl and ebony veneer and a bevel in the solid walnut ring.

The designer steals from himself. The author took the curves and slats of the chair design and used them in the buffet, below.





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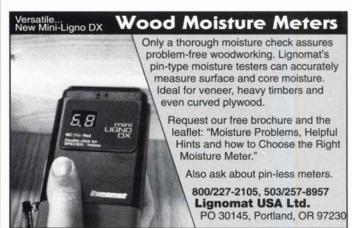
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The Proof Is In the Cutting Both Woodworker II blades performed very well, whether cutting through butter-soft %"-thick pine or iron-hard 1 %"-thick ash. The 20° positive hook angle and 15° alternate top bevels give the blades an aggressive attack; we maintained a brisk, uniform feed rate while ripping a variety of woods on the powerful Unisaw and experienced no discernible resistance or slowing. On the smaller saws, switching to the thin-kerf blade allowed very similiar

able resistance. Although we've used blades that cut faster, their cut quality couldn't touch what we got with the Forrest blades. On solid stock, ripped edges came off our saws jointer-finished, smooth and slick with no visible teeth marks-good enough to edge-glue without additional machining. Crosscuts came out crisp and clean with no fuzzing or tiny splintering.

feed rates, again with barely notice

The Bottom Line

Performance of the Woodworker II is impressive enough that you could bolt this versatile, general-purpose blade on your saw and use it for virtually all of your cutting opera-

SHOP TEST, Woodworker's Journal Nov./Dec. '95 pg.78

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9°x80Tx1/8° & 3/32° K	\$207	\$179	14"x100Tx1"	\$266	\$226
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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.



SIMPLIFYING A LINEN FOLD

The drawers of the armoire that accompanied my bed (p. 74) were relieved in a simplified linenfold, so I repeated that idea in the panels between the rails of the headboard and the footboard. My scaled-down linenfolds are not nearly as laborintensive as the traditional carving technique—in fact, they require no carving ability at all.

Because the top and bottom edges of the bedboard panels are hidden, I was able to make mine by crosscutting the pieces, rounding over the two corners on one side of each piece, offsetting the pieces slightly and rejoining them with biscuits (see the drawing below left). The rails on the top and bottom, in addition to hiding the offset joint, also give this end-grain glue-up added strength. The linenfold design this produces can be seen on both sides of the bedboards.

-Alice Roth-Suszynski

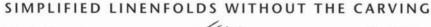
TWO WAYS TO BUILD A FALL-FRONT DESK

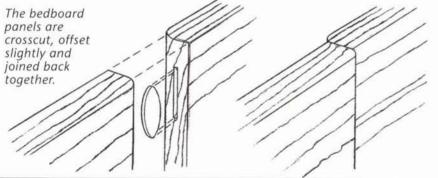
When I designed the fall-front writing surface in my "Walnut Writing Cabinet" (p. 52), I wanted to hide the writing surface behind one of the drawer faces so that the piece would look more like a chest of drawers than a secretary. Because the drawer front by itself is not wide enough for a useful desk top, I had to make the writing surface larger by having the fall front slide out (just like a drawer) and then making the drawer face fold open (see the drawing facing page).

The function of this desk is light duty, such as writing notes or paying bills, so I did not need the support of lopers to hold up the writing surface under the weight of heavy books. I also wanted to use unobtrusive hardware that would hold the drawer front in a vertical position when closed, yet easily hinge down to the open position. The hardware had to be hidden so that the drawer would look just like a real drawer when the desk is closed.

I decided to use butler's-tray hinges, available from many mail-order supply companies, which were

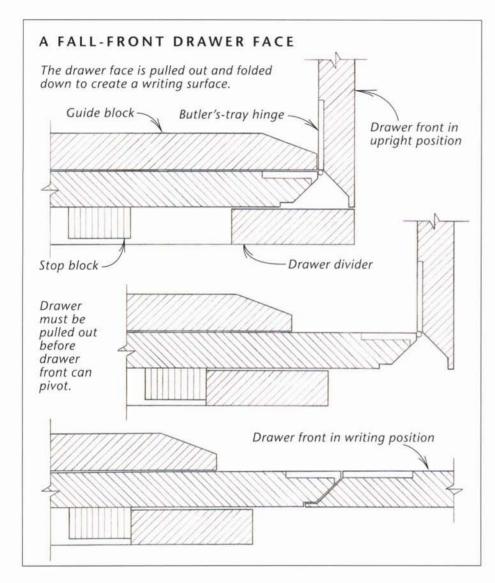
Photos this page: Suzie lezek





No carving required. The simplified linenfolds on these panels are made with a crosscut saw, a roundover bit and biscuits rather than the carving tools needed for true linenfolds.









Drawer front falls, too. This fall front is made differently, with spring-loaded butler's tray hinges. Since it is not supported by lopers, the writing surface was designed for light duty.

perfect for this application. The spring-loaded hinges, mortised into the writing surface, lock in both vertical and horizontal positions. To give the hinged joint more stability, I beveled the mating surfaces (see the drawing above). To open the desk, you pull it out as if it was a regular drawer and when it stops (about two-thirds the depth of the cabinet) you flip down the drawer front.

-John Reed Fox

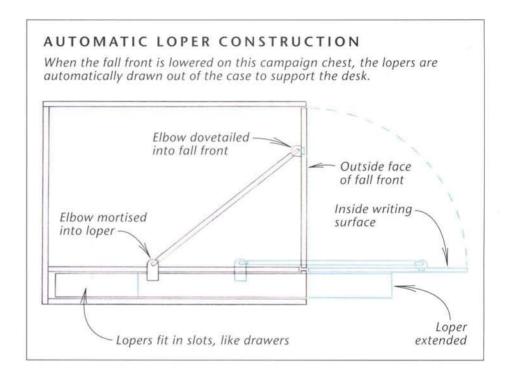
KEEPING THE HARDWARE HIDDEN

Most fall fronts, even on elegant antiques, are made awkwardly. Either they are not flush with the fixed case (such as in a traditional slant-top desk) or they use hinges that intrude on the writing surface. I wanted the writing surface on my secretary "A Modern Campaign Chest" (p. 76) to be flush with the case when closed and perfectly flat, without intrusive hardware, when open.

I found the perfect solution in section 25 of *The Encyclopedia of Furniture Making* by Ernest Joyce. In this method, the fall front pivots on knife hinges mortised into the sides of the cabinet and the writing surface (see the bottom drawing on p. 98). An invisible, coved "race" allows the fall front to pivot.

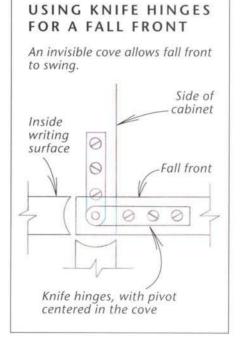
I did a mock-up of this method using only one hinge and small parts cut to the same scale as the secretary.







Brass loper arms work like silk. The brass and teak arms that automatically pull the lopers out don't rub or bind. Discreet knife hinges keep the fall front flush with the front of the case.



To get this to work just right, the hinge pivot must be centered in the cove. I laid it out carefully, cut the mortises for the hinges and gave it a test fit before drilling the holes for the hinge screws. To get tight, equal gaps all the way around the fall front, minor adjustments are possible by filing material off the ends of the hinges and pushing them further into the mortises or, for the stouthearted, chop the mortises longer.

The hinge mechanism is only one part of the fall front. The other is the automatic lopers that support the writing surface (see the drawing above). The teak lopers fit into slots just as a drawer would. The elbow fittings are mortised into the loper at one end and dovetailed into the writing surface at the other. The

connecting arm between these two points is made out of brass with teak veneer. I didn't trust the bonding power of epoxy between wood and metal, so I pierced the brass before gluing on the teak veneers so that the epoxy would form a bridge between the two wood veneers. (I made the brass and ironwood pulls the same way.)

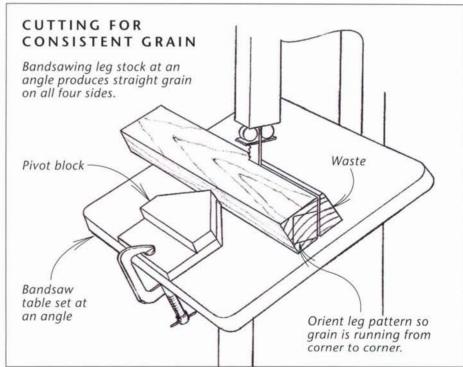
The brass and teak connecting arm is pinned to both elbows and it pulls or retracts the loper arms along with opening or closing the fall front. I put leather pads on the top of the lopers where they contact the fall front to prevent them from marring the outside surface of the fall front.

—Les Cizek





Leg with linear figure. By carefully laying out the leg stock, each side of the square portion of these turned legs has straight, consistent figure.



CUTTING TABLE LEGS FOR CONSISTENT GRAIN

I wanted straight grain lines on the square portions of the legs on my "18th-Century Stretcher Table" (p. 47). With a little extra material and time, you can create a leg with consistent figure all around, avoiding different

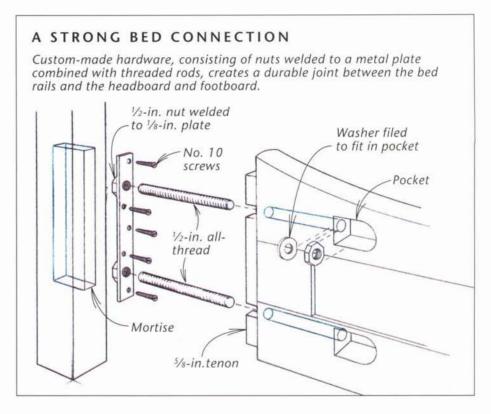
and disconcerting grain patterns on adjacent sides of each leg.

I needed a 2-inch square blank for the turnings, so I made a 2-inch square out of cardboard and traced the square on the end grain of the 3inch thick stock. I aligned this square so the annual rings crossed from corner to corner (see drawing above). If the end grain had run parallel to one of the leg faces, it would have created wavy "cathedral" grain patterns on two faces and straight grain on the other two. I transferred the square that I had drawn to the face of the stock and roughed it out,

using a bandsaw with the table angled and steering with the help of a pivot block.

I cut two sides this way and jointed them flat, then planed the opposite sides to get a square. I let the blanks sit for a couple of days, allowing the wood to move before milling them to final dimension. Before doing any turning or joinery, I placed the legs together along their faces to decide how to orient them for best results. For me, this was a helpful exercise to learn about manipulating grain for figure before tackling my next project—a cabriole leg—in which the grain direction of the legs is even more critical.

-Mary Conlan





Two-way strength. This technique for fastening the bedboards to the rails combines the strength of mortise-and-tenon joinery and metal bolts.

BED HARDWARE THAT WON'T WORK LOOSE

The threaded bar insert on my "Cattail Bed" (p. 57) allows me to connect the headboard and footboard to the side rails with superb strength, producing a joint that is unlikely to work loose.

For the hardware, I made a steel plate with ½-inch nuts welded onto the backside. I screwed this plate with No. 10 screws into the bottom of the mortise, which I cut ¾6 inch deeper than the rail tenon to accommodate the plate.

With the plate seated inside the mortise, I then turned my attention to the 1%-inch side rails. I started by drilling two 6-inch deep holes into the ends of the rails (through the tenons) using a jig clamped to the tenon that aligns the drill. I used a %-inch bradpoint drill as deep as the jig

allowed (the bradpoint drills a truer hole into end grain). Then I removed the jig and continued drilling. (For additional depth, you can finish off the hole with a longer metal-cutting bit.)

Next, I routed out the nut and washer pocket leaving at least ¼ inch of wood between the pocket and the exterior face of the rail (just enough room to swing a wrench when tightening the ½-inch nuts). I squared off one side of the pocket so the washer and nut land flat on the wood.

Assembling the bed is easy. I start by screwing the threaded rod into the bar as far as it will go. Then I line up the side rail onto the rods and seat it into the mortise, fastening with the nuts and washers. To get the washers to fit snugly into the pocket, I found it necessary to file off the edges.

-Paul Schürch

CUSTOMIZING HARDWARE TO ATTACH CARVED PULLS

The carved pulls on my "China Hutch in Honduras Rosewood" (p. 62) were very important to me. I spent many hours working the rosewood to get them just right. I wanted them to stand proud of the cabinet, but I didn't want the connection to draw attention to itself. Therefore, I had to devise a way to attach these petite pulls unobtrusively, which meant creating my own hardware.

My main concern was to avoid a flashy brass connection between the pull and the cabinet. But I also wanted strength and durability. My solution was to make a thin, rosewood sleeve around the shank of a brass machine screw.

First, I made blocks, about ¼ inch square by about % inch long. I put the

little blocks in a vise and drilled out the centers to accept a No. 8 machine screw (I cut the head off the screw so that it would be threaded at both ends). I epoxied the screw inside the square rosewood sleeve and then carved it into a cylinder using the screw as a guide. This essentially creates an unbroken veneer of rosewood (less than ½2 inch) wrapping the threaded screw and held fast with the epoxy.

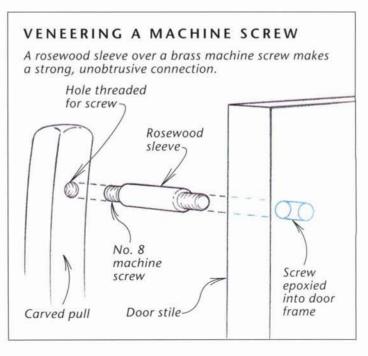
To make sure the screw would be seated securely in the slender carved pull, I drilled an undersized hole into the pull and threaded it with a tap so that I could screw one end right into the pull. The other end, which attaches to the door, is held with epoxy. When everything is finished and the pulls are on, no hardware is visible, and the carved pulls take center stage.

-Monroe Robinson





Keep it petite. The hardware for these slender pulls was made so that you can't see it, giving full play to the hand carving.



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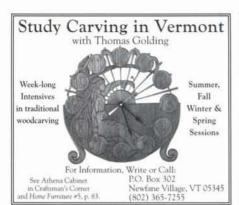
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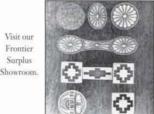
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SAPELE: AN AFRICAN MAHOGANY

In the busy sailing port of Liverpool in the 18th century the aromas of exotic timbers mixed with pungent spices and acrid fumes of tar. Many of Europe's timber buyers had their agents here. Cargoes of West Indies mahogany found their way across the stormy Atlantic and were unloaded in Liverpool, then carried in smaller ships and horsedrawn wagons to the furniture makers of England and the Continent. From the moment the Spanish introduced mahogany to the Old World in 1563, it gained in reputation. By 1750, it had become the most prized of all primary woods, used for the best and most sophisticated work.

Then, in 1833, the first species of African mahogany began to arrive on the quays of Liverpool; the two great mahoganies met log to log. Supplies of West Indian mahogany were still plentiful then, and continued to be preferred in prominent furniture shops. It took some 50 years for the African mahoganies to take hold.

Today there are still, broadly speaking, two types of mahogany on the world market, African mahogany and true mahogany. The so-called true mahoganies comprise, in the main, the various *Swietenia* species, including West Indies mahogany, *S. mahagoni*, once widely used but now extremely rare, and big-leaf or Honduras mahogany, *S. macrophylla*. The African mahoganies mainly consist of the species *Entandrophragma* distinguish the wood of one from another. Sapele is one of the

Sapele is one of the African mahoganies and bears the scientific name *Entandrophragma cylindricum*. It took its common name from Sapele, Nigeria, where the wood was first harvested for export. Sapele grows in many West African countries, however, especially those bordering the old romantic Gold Coast.

You may find sapele sold under such names as Mungo River sapele, Uganda sapele, and others. These merely identify where the wood was harvested; it all should be *E. cylindricum*.

Sapele is a straight-trunked tree, buttressed at the base, and towers up to 150 feet or more with diameters in the neighborhood of six feet. It can be recognized by its long, glossy, compound leaves and a sweet smell when the thick, smooth bark is scratched. Sapele has a pleasant cedar-like odor when worked and is a nice weight to handle (about like sugar maple), being in the

and Khaya. All these trees

and it is often difficult to

are in the Meliaceae family,



Desirable blisters. Sapele sometimes exhibits extreme blister figure, called pomele.

area of 40 pounds per cubic foot with a specific gravity of 0.55. The fine-textured wood is a dark reddishbrown with tints of purple. Unlike most other mahoganies, sapele's grain is interlocked and reverses direction unpredictably, making it a bit difficult to season and to work but giving an attractive roe stripe on the quartered surface. Sapele is especially renowned for the beautiful blister grain called snail figure or pomele that it sometimes exhibits (for an example, see the "Sapele Rocking Chair" on p. 82).

There is concern that sapele may be endangered from overcutting. But the greater problem is in losing seeds from superior trees. Reasonable cutting can continue, but propagation will be necessary to preserve the vigor of the species. James H. Flynn keeps in touch with fellow dendrologists around the world from his home in Vienna, Va.

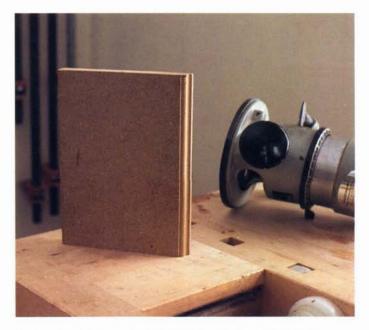
SOURCES FOR SAPELE

There is an ample supply of sapele on the world market, but you may have to do a little searching for pieces with the attractive pomele figure. Suppliers include: A & M Wood Specialty Inc. (358 Eagle St. North, P.O. Box 32040, Cambridge, Ont., Canada N3H 5M2; 519-653-9322); Boulter Plywood (24 Broadway, Somerville, MA 02145; 617-666-1340); Maurice L. Condon Co., Inc. (250 Ferris Ave., White Plains, NY 10603; 914-946-4111); Craig Lumber Corp. (200 S. Progress Road, Collierville, TN 38027; 901-853-4317); Dean Hardwoods (1 Cowan Street, Wilmington, NC 28402; 910-763-5409); Eisenbrand Inc. Exotic Hardwoods (4100 Spencer Street, Torrance, CA 90503; 800-258-2587); Tropical Exotic Hardwoods (P.O. Box 1806, Carlsbad, CA 92018; 619-434-3030); and Wood-Ply Lumber Corp. (100 Bennington Ave., Freeport, NY 11520; 800-354-9002).

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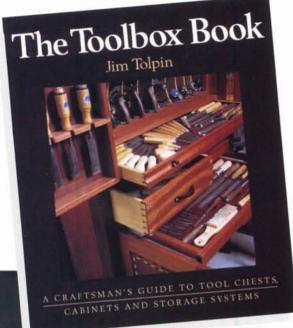
composite sheet goods result from the glues that bind them. By using synthetic resin binder, Medite II avoids adding any formaldehyde. It meets all United States and European standards and does not require a warning label even under California's tough Proposition 65 requirements. Medite II is available from distributors throughout the country. For the name of a nearby distributor, call the manufacturer, Medite Corporation (P.O. Box 4040, Medford, OR 97501; 541-773-2522 or 800-676-3339).



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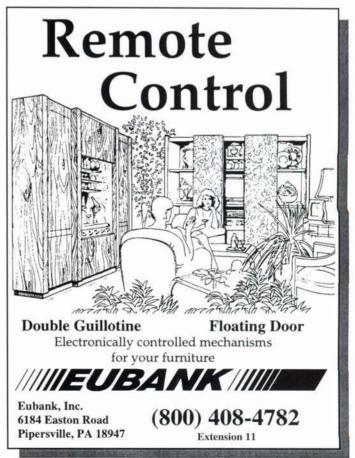
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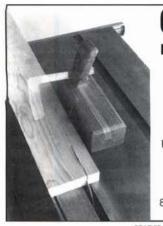
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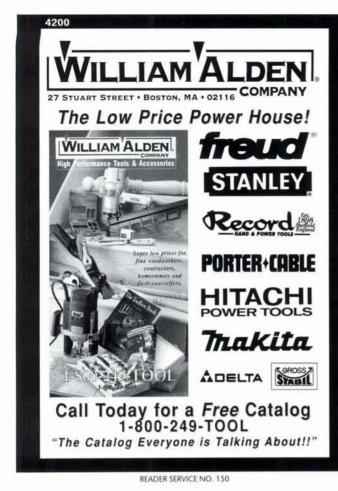




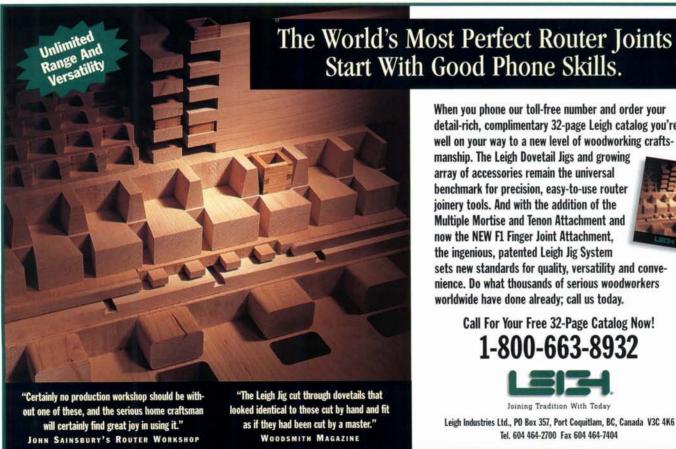












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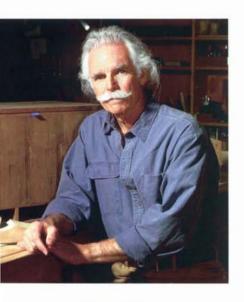


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about the furniture makers

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



LES CIZEK

(above) began working wood in the 60s with a radial arm saw and a belt sander. In the 80s he taught kitchen cabinetmaking at Miami-Dade Community College. After studying at the College of the Redwoods with James Krenov, he co-founded a group shop in Fort Bragg, California. He is also a blues guitarist and a tattoo collector (Four Sisters Woodworking, 400 No. Harrison St., Fort Bragg, CA 95437; 707-964-4141). "A Modern Campaign Chest" on p. 76.

PETER BARRETT

is a furniture designer who also does CAD drafting work. He studied architectural design and worked as a residential architect before he began to build furniture (5 Allen Rd., Pownal, ME 04069). "Lacewood Stereo Cabinet" on p. 66.

EDWARD C. BROWN

studied furniture making at Algonquin College in Ontario and then at the College of the Redwoods under James Krenov. He now builds furniture in his shop near Ottawa (RR 2, Almonte, Ont., Canada K0A 1A0; 613-256-0119). "Cherry Chair with Bubinga Desk" on p. 48.

STEVEN THOMAS BUNN

is a chairmaker in coastal Maine who makes mostly Windsor chairs. He started woodworking in a basement shop in Delaware with \$2,000 of his wife's savings and then worked as a cabinetmaker with Thomas Moser of Auburn, Maine, before opening his own shop (RFD 1, Box 2795, Bowdoinham, ME 04008; 207-666-5586). "Continuous-Arm Windsor High Chair" on p. 54.

MARY CONLAN

moved to Boston in 1993 to study cabinetmaking at the North Bennet Street School, and also studied woodworking at Laney College in Oakland, California. She previously studied graphic art and printmaking and worked in construction (6 Beck St., Newburyport, MA 01950). "18th-Century Stretcher Table" on p. 47.

TOM FARR

built staircases and custom cabinets outside Eureka, California, before moving to Portland to open a chairmaking business. His work has appeared in galleries and shows on both coasts (2628 S.E. 52nd Ave., Portland, OR 97206; 503-233-0306). "Sapele Rocking Chair" on p. 82.

IOHN REED FOX

was an auto mechanic and did political and union work before becoming a cabinetmaker. He began building custom furniture full-time in 1979. He was soon juried into the annual American Craft Council exhibit in Baltimore, where he has been showing his work since the early 1980s (179 Pope Rd., Acton, MA 01720; 508-635-0807). "Walnut Writing Cabinet" on p. 52.

RICHARD HELGESON

was the recent winner of the Best Design award at the annual Northern Woods exhibition in Minneapolis (Box 11321, Minneapolis, MN 55411; 612-521-1674). "Look Around Before You Design" on p. 40.

JAMES HOOPER

studied briefly with Robert G. Emmett but has learned furniture making mostly by repairing antiques. He now restores pre-Civil War furniture and builds some custom pieces. He lectures on antique identification, repair and refinishing at the University of Tennessee (630 Hendron Chapel Rd., Knoxville, TN 37920; 423-573-9752). "Hepplewhite Server" on p. 64.

ANDREW JACOBSON

designs and builds highend furniture and cabinetry in a 3,000 square foot shop in northern California that was once a hatchery for tropical fish and chickens. With the help of two assistants, he builds more than 50 pieces of furniture a year for clients around the country (3420 Skillman Lane, Petaluma, CA 94952; 707-765-9885). "Pear and Walnut Game Table" on p. 72.

DARRYL KEIL

is the proprietor of Vacuum Pressing Systems, Inc., which manufactures veneer vacuum presses. He also designs and builds custom furniture (553 River Rd., Brunswick, ME 04011; 207-725-0935). "A Family of Furniture" on p. 90.

STEPHEN LAMONT

was a professional pilot for 18 years before serving a furniture-making apprenticeship with Christopher Faulkner in Devon, England. He makes custom furniture on commission in his one-man shop (235 Stein Ln., Lewisburg, PA 17837; 717-524-2114). "Arts and Crafts Bonheur du Jour" on p. 79.

RICHARD LEBLANC

repaired and reproduced antiques and worked in several custom furniture shops before opening his own business five years ago (LeBlanc Designs, 2114 Western Ave., Seattle, WA 98121; 206-283-7641). "Updated Mission Hall Table" on p. 60.

DOUG MOOBERRY AND KEVIN ARNOLD

have been building reproduction furniture together for more than 10 years. Doug is the proprietor of Kinloch Woodworking Ltd., which specializes in 18th and 19th-century American furniture, and Kevin does most of the shop's carvings (Kinloch Woodworking Ltd., Rt. 82, Box 461, Unionville, PA 19375; 610-347-2070). "Salem Secretary in Figured Mahogany" on p. 44.

TIMOTHY S. PHILBRICK

studied furniture making and design at Boston University's Program in Artisanry in the 1970s. He now designs and builds furniture on commission (P. O. Box 555, Narragansett, RI 02882). "Designing with Dividers" on p. 84.

MONROE ROBINSON

studied furniture making with James Krenov at the College of the Redwoods in the early 80s. He can often be found in the forests of northern California looking for fallen old-growth redwood logs, which he and a partner mill into beautiful lumber (42700 Little River Airport Rd., Little River, CA 95456; 707-937-2825). "China Hutch in Honduras Rosewood" on p. 62.

KEVIN P. RODEL

and his wife, Susan C. Mack, design and build Arts and Crafts-inspired custom furniture. They worked in a number of shops before starting their own in 1985 (Mack and Rodel, 44 Leighton Rd., Pownal, ME 04069; 207-688-4483). "Arts and Crafts Reborn" on p. 26.

ALICE ROTH-SUSZYNSKI

was in 1973 the first woman accepted into the cabinet-mill division of the United Brotherhood of Carpenters in Chicago. She holds a contractor's license and works out of her own shop, building custom cabinetry and designing furniture (Aunt Alice's Woodshop, 1686 Lone Oak Rd., Vista, CA 92084; 619-727-3035). "Bed with Simplified Linenfolds" on p. 74.

PAUL SCHÜRCH

is a furniture maker specializes in custom commissions and limited editions. His formal training includes a Swiss apprenticeship in church organ building and journeyman work in England as a boat builder (Schürch Woodwork, 1324 Cacique St., Santa Barbara, CA 93103; 805-965-3821). "Cattail Bed" on p. 57.

LORNA SECREST

opened a six-person furniture-making shop in 1984, after studying furniture design at the Rochester Institute of Technology. Two years ago she opened Iron, Glass and Wood, a gallery in Pittsburgh that sells furniture and furnishings by a variety of craftsmen (Iron, Glass and Wood, 605 College St., Pittsburgh, PA 15232; 412-661-7550). "Upholstered Dining Chairs" on p. 70.

GUNTER SHAFFER

has designed and built furniture for 20 years. Since graduating in 1987 from the architecture program at the University of Oregon, his projects have included the design and construction of homes, additions and architectural details (1603 N. West St., Wilmington, DE 19802; 302-654-2494). "Low Table in Walnut and Oak" on p. 68.

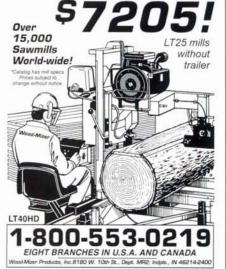
PETER TURNER

designs and builds furniture and is also co-proprietor of Gallery 7, a gallery of furniture and other handcrafts in Portland, Maine (NCD/Alcyon, 169A Lewiston Rd., Gray, ME 04039; 800-544-9135). "Bookcase with V-shaped Shelves" on p. 50.

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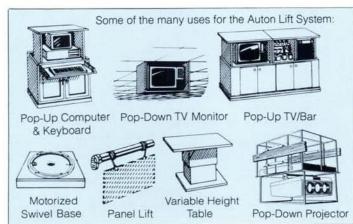


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Pop-Down Ceiling TV

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A sampling of the pieces featured in this issue:





