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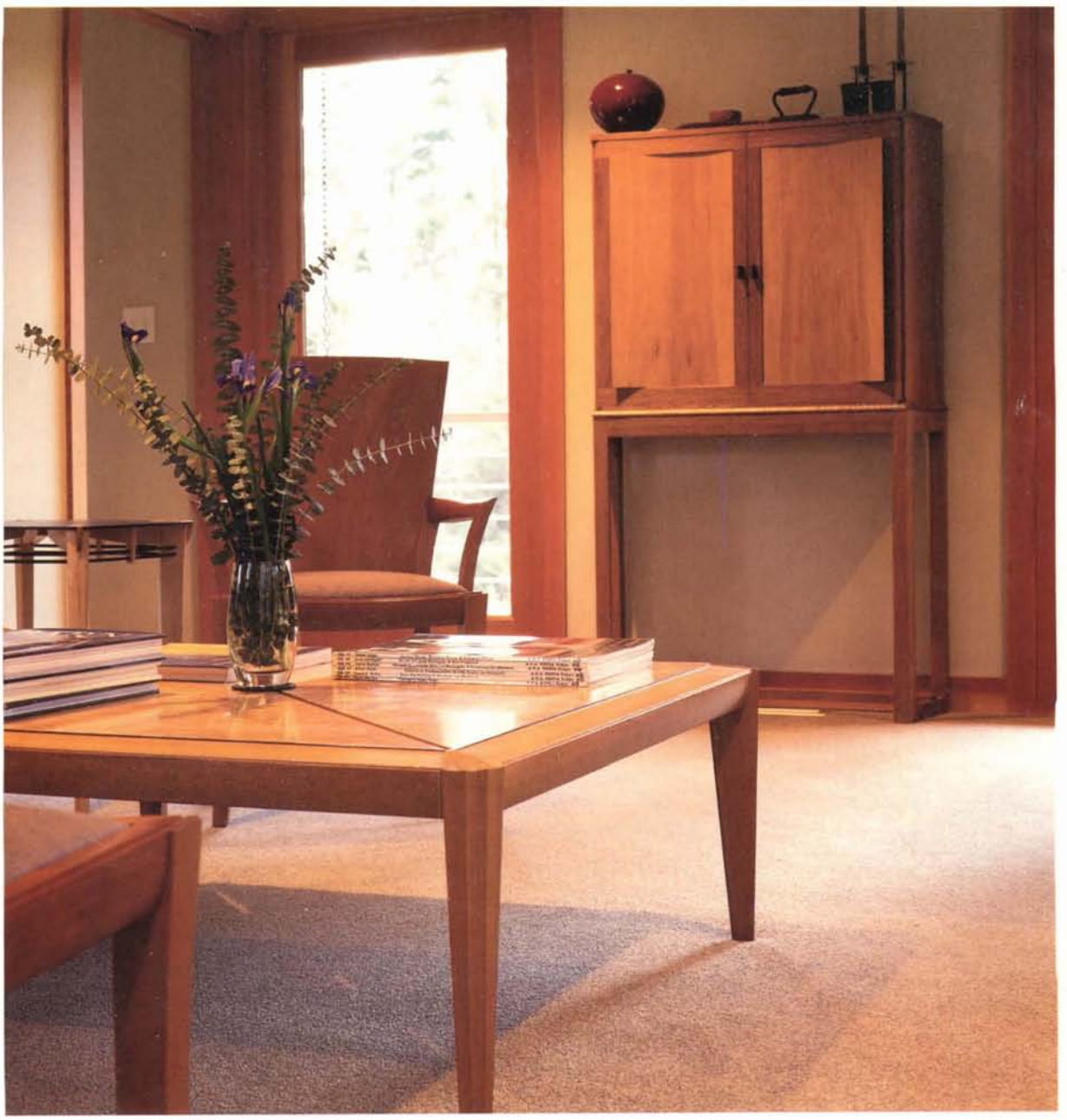

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JULY 1997

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JUNE/JULY 1997 NO.11

On the cover: *William Walker's living room reflects both his roots and his range, with pieces of his own design in the foreground and an early cabinet after James Krenov in the background. See p. 56. Photo by Jonathan Binzen.*

DEPARTMENTS

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letters

TOO MUCH INFORMATION LEFT TO THE IMAGINATION

For a product to be successful, it must deliver something. Depending on your perspective, that something could be exposure, information or knowledge. *Home Furniture* is probably best utilized by either of two groups: professional furniture builders or consumers who wish to commission custom-made furniture. The builders receive national exposure through your magazine when their articles are published, and consumers get the equivalent of a catalog for one-of-a kind furniture with information on where to buy it. This is a fine relationship for *Home Furniture*, professional furniture builders and furniture buyers, but it leaves the amateur woodworker reader without the transfer of knowledge that normally comes as part of a subscription. I have read several issues of *Home Furniture* from cover to cover and the information provided is so vague that you cannot hope to build the furniture yourself. I design things for a living, deal with drawings every day, and as a serious hobby enjoy woodworking. If anything, my combination of design experience, ability to create drawings, and level of woodworking skills should be enough that I could build the pieces presented in *Home Furniture*. That's where we have a mismatch. There is so much information left to the imagination of the reader that one would need to do a complete layout of components, joints, etc., in order to build the project. Other than the outside dimensions and possibly the wood used, what information have I gained from the article?

I know the literature for *Home Furniture* said this was not a "how-to-do-it" magazine. That's an understatement. You should have indicated that there was little chance that you could build it even if you had the skills.

—Arnold Nelson, Redlands, Calif.

TRADITIONAL VS. CONTEMPORARY

The recent *Home Furniture* included two letters of response to the traditional/modern squabble raised in the letters section of *HF* #9 (January 1997). I'd like to add my voice to the call for balance and for openness. This is a big world, and woodworking is a lot of different things. I found Thomas Richardson's remarks about James Krenov particularly disturbing. Aesthetics certainly transcend mere style. Whether traditionalist or modernist, who can fail to gain from the impeccable rightness of James Krenov's aesthetic sense and sense of content. Whether you "like" his furniture or not, you can't deny his immeasurable contribution, showing us that woodworking remains a living thing. It seems to me that *Home Furniture* is giving excellent coverage to the range of woodworking.

—John Nesset, Minneapolis, Minn.

In reference to Charles Jacobs' letter in the April 1997 issue (*HF* #10) denouncing contemporary furniture as soon "forgotten," he himself has forgotten one important point: All

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those traditional styles treated with such reverence were, at one time, contemporary.

Admittedly, to know where you're going, you have to know where you've been. However if you fail to look ahead now and again, you'll only end up running into a ditch.

—Scott Massey, Vancouver, B.C.

One more view on contemporary vs. traditional design. I subscribe to your magazine for the chance to see what my contemporaries are doing to advance furniture design. If I want to see traditional-style furniture there are hundreds of books with thousands of photographs readily available to anyone who has a library card. Contemporary design is not that accessible, which makes publications like yours more valuable to those of us who think furniture design needs to grow and branch and be representative of the time in which it was created.

We are creating the traditional style of the future right now, not to replace Chippendale or Biedermeier but to stand with them in another few hundred years.

—Scott Armstrong, Powell, Wy.

INSPIRED BY BARNSLEY

The photographs of the cottage and woodwork of Edward Barnsley in your Summer 1995 issue (*HF* #3) brought back a fond memory to me. I had been traveling Great Britain, looking for a furniture maker to work for. I found my way to the door of Barnsley's lovely home on a Sunday, and unannounced. He invited me in, and showed me many fine pieces and his workshop. I particularly remember the sweet fine sycamore inlay that he liked to employ. His shop had a wonderful atmosphere, very English, and one could really sense the brilliant tradition that was being perpetuated there.

I had recently completed a four-year apprenticeship in Japan, and Mr. Barnsley and I had a lengthy discussion on similarities and differences in the two cultures' approach to woodworking. I showed him a small Japanese plane that I carried, and he commented that he thought it was quite beautiful. I ended up staying for a dinner that his wife prepared.

Mr. and Mrs. Barnsley were the most gracious of people. It was a few years before the end of Edward's career when I dropped in on him. He had become quite well known and highly respected. I was a person of fairly limited woodworking experience, yet I shall never forget the genuine kindness of the Barnsleys in the way that they opened their home to me. They both had a conviction toward furniture making, and their lives, that still inspires.

I asked if it might be possible for me to find a place in his shop. He replied that he'd recently taken on a young lad, and at the time, one "school leaver" was enough. Nevertheless, there was a plentiful spirit there that I was fortunate to have experienced, albeit for a short time.

—Dennis Young, Hotaka, Japan

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Our online presence also makes it easier to contact us. Send queries or comments about the magazine to our e-mail address: *hf@taunton.com*. We also encourage you to send letters to the editor for publication to the e-mail address.

Submitting an article. *If you have an interesting story about how you designed a piece of furniture, we'd like to hear about it. Send a letter with photos to Home Furniture Editorial, 63 S. Main St., P.O. Box 5506, Newtown, CT 06470-5506. We pay for articles we publish and return materials we can't use.*

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BY JEFFERSON KOLLE

Period Furniture in an Authentic Setting

Missing an *r*, with an extra *e* tacked on at the end: Strawbery Banke. It's a funny name for an extraordinary museum of period furniture and antique houses in Portsmouth, New Hampshire. The town was first called Strawbery Banke, for the verdant fields of wild berries that grew along the shores. The name was changed to Portsmouth in the middle of the 18th century.

The museum refers to itself as "an historic waterfront neighborhood." Forty-six buildings in varying states of restoration make up the museum, and most of them are crowded along narrow, unpaved 17th-century streets. People lived and worked in the area for 300 years prior to its incorporation as a museum in 1958.

There are houses, shops, and barns, all of which you can walk around and look at, imagining life before the Internet, the interstate, the automobile. There is a wide variety of exhibits inside the buildings: displays of woodworking tools, exhibits about house construction, archeology, coopering, and period crafts like candle making and open hearth cooking. And, of course, there is furniture.

The museum has a vast collection of Portsmouth furniture. There are nine furnished houses in the museum, displaying pieces that run the gamut from a Queen Anne highboy, made in 1738, to factory-made furniture from the 1950s.

Portsmouth was a major furniture-making center as early as the mid-18th century. It was in the Federal period, from the 1790s to around 1820, that the city experienced its greatest wealth and when its furniture reached its pinnacle.

In the town's heyday, the wealthy merchant class built hundreds of high-style houses and filled them with high-style furniture. The town fell on hard times, and by the 1950s, the port city, once known for its mansion houses, was known mainly for its Navy prison, its seedy bars and its houses of ill repute. An urban renewal plan—a euphemistic term in the 1950s—called for the widespread razing of the town's period neighborhoods, and, in fact, many were bulldozed. Recognizing the imminent annihilation of their city's history, a small group of visionaries were able to save the neighborhood that now comprises Strawbery Banke museum.

While I was visiting Strawbery Banke, I had none of the other-side-of-the-glass feelings of false perfection I get at some museums. Some of the buildings need paint, there was mud in the narrow streets, and the lawns didn't look like golf courses. But the museum bustles with activity; people are working everywhere.

There are no guided tours; you can wander the grounds freely seeing what you want to see, discovering things at your leisure. One building, the William Pitt Tavern, is full of period reproduction furniture that you can sit on, touch, open the drawers of if you like. Of

A feeling of a simpler life is evident in the furnished rooms of Strawbery Banke museum in Portsmouth, New Hampshire.

Saved from the bulldozer in the 1950s, a neighborhood of over 40 period buildings is now a museum.

Photos: Jefferson Kolle, except where noted; top photo this page: courtesy of Strawbery Banke

course, like all museums, the rooms full of period antique furniture have barriers around the furniture, but you can poke your head into the rooms.

They look like the occupants just stepped out for a minute. You can smell the beeswax on the furniture, and see the fingerprints on the glassware. Knowing how furniture was lived with helps you appreciate its style and design. No one lives in the houses, but you can feel their presence.

Strawbery Banke is open from the first weekend in May through the last weekend in October. It reopens for Thanksgiving weekend and holiday candlelight strolls on the first two weekends in December. Admission is $9 for adults, less for seniors, children and groups. For further information, call (603) 433-1100.

Jefferson Kolle is an associate editor at Home Furniture.

Portsmouth furniture was fancy and high-style. Strawbery Banke has a vast collection of furniture from this New Hampshire seaport.

Displays of tools and handcrafts fill many of the buildings. Others are full of furniture from the 18th through the 20th centuries.

READER SERVICE NO. 759

CALIFORNIA

WoodFair 1997

July 11-13. College of the Redwoods, Eureka

Artisans will exhibit furniture and other wood crafts at the ninth annual show sponsored by the parent college of the influential furniture-making school. Call (707) 445-6915.

COLORADO

Anderson Ranch Arts Center

Snowmass Village

Brian Kelly teaches table design and construction June 30-July 11; Sam Maloof leads a weekend workshop July 26-27; and Gail Fredell will lead a intensive three-week workshop on furniture design September 1-19. Call (970) 923-3181.

CONNECTICUT

The Craftsman's Chair

May 18-July 6. Brookfield Crafts Center, Brookfield

An exhibit of chairs from some of today's best furniture makers. Call (203) 775-4526.

DELAWARE

"Costly as well as Ornamental": The Case Furniture of Newport

Winterthur Museum, Winterthur

This ongoing exhibit (above photo) shows the distinctive techniques used by Newport furniture makers in the 18th century. Call (302) 888-4600.

ILLINOIS

Charles Rennie Mackintosh

Through June 22. The Art Institute of Chicago, Chicago

An exhibit of furniture, art and interiors (including an entire tea room) from the turn-of-the-century architect, organized by the museums of his native Glasgow.

MAINE

Center for Furniture Craftsmanship

Rockport

Among their courses this summer: Chris Becksvoort on Shaker design (June 16-27); John Dunnigan on advanced furniture making (July 14-25); and Robert DeFuccio on on chairmaking and design (August 11-22). Call (207) 594-5611.

Haystack Mountain School of Crafts

Deer Isle

Jere Osgood teaches a course on chair design August 17-29 where you can go from an idea to a finished prototype in two weeks. Call (207) 348-2306 for information on this and several other summer woodworking courses.

MASSACHUSETTS

Inspiring Reform: Boston's Arts and Crafts Movement

Through July 14. Davis Museum, Wellesley

You can see the influence of Arts and Crafts on the Boston area through 150 objects made from 1890 to 1930, in a variety of decorative arts including furniture. Call (617) 283-2051.

Woodworking Through the Ages

June 14-15. Hancock Shaker Village, Hancock

A weekend of demonstrations of Shaker, traditional and contemporary cabinetmaking techniques, and exhibits of handmade furniture from the 18th century to today. Call (413) 443-0188.

NEW JERSEY

Peters Valley Craft Center

Layton

Martin Simpson conducts a workshop June 14-15 on mirror design and construction, and Gary Rogowski teaches August 4-12 on designing boxes. Call (201) 948-5200.

NEW YORK

Furniture of Distinction, 1790-1890

The Museum of the City of New York

An ongoing display from the heyday of New York furniture, with related documents, such as a bill to one of Duncan Phyfe's customers, that depict the furniture trade in the city over the course of a century.

Shaker: the Art of Craftsmanship

Through July 13. Munson-Williams Proctor Institute Art Museum, Utica

A traveling exhibit of 86 objects of furniture and decorative arts from the Shaker community at New Lebanon, New York. Call (315) 797-0000.

Conference '97 of The Furniture Society

July 10-13. Purchase College, Purchase

This group's first annual conference will feature lectures from furniture makers and others in the studio furniture field; also, an exhibit of work from Furniture Society members. Call (804) 973-1488.

NORTH CAROLINA

Penland School of Crafts

Penland

Courses this summer include Mitch Ryerson on using found objects in furniture July 6-18, Michael Joerling on the design process August 10-22, and Norman Petersen on designing and building benches August 24-30. Call (704) 765-2359.

OREGON

The Good Wood Show

Through May 31. Contemporary Crafts Gallery, Portland

You'll have to hurry to catch this show sponsored by the Good Wood Alliance; it's a juried exhibition of furniture and other objects that aim to provoke a rethinking of the role of wood in design. Call (503) 223-2654.

WASHINGTON

Northwest Fine Woodworking Gallery

Seattle

Through June 15, a show of recent furniture in the Arts and Crafts style by Thomas Stangeland; from June 18 to July 31, Bob Spangler exhibits furniture made in bubinga. Call (206) 625-0542.

WISCONSIN

Craft in the Machine Age, 1920-1945

June 13-August 17. Milwaukee Art Museum, Milwaukee

A look at how American craftsmen responded to the rise of modernistic style and industrial design; the show includes furniture by Charles Eames, Wharton Esherick and Frank Lloyd Wright. Call (414) 224-3200.

CALLS FOR ENTRIES

The Chair Show II

Entries due June 4. Exhibition will be October 4, 1997 through January 4, 1998 at the Folk Art Center, Asheville, N.C.

The Southern Highland Craft Guild sponsors this competition for chairs designed in the last three years; the show is juried by Sam Maloof, Wendy Maruyama and Michael Monroe. The entry fee is $15. Call (704) 298-7928 for information.

The 1998 Niche Magazine Awards

Entries due August 1, 1997

This crafts competition includes categories for one-of-a-kind or limited-edition as well for production wood furniture. The winning artists will receive awards at the Philadelphia Market of American Craft next February. Call (410) 889-3093 for an application.

Listings in this calendar are free. Send complete materials, including a phone number to call for more information, to **Calendar,** Home Furniture, *63 S. Main St., P.O. Box 5506, Newtown, CT 06470-5506. The deadline for the October/November issue is July 10.*

Photo: Courtesy of Winterthur Museum

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the drawing board

BY DAVID KENEALY

Refining Your Thumbnail Sketches with Transparencies

Imagine this: in an inspired moment, a wonderful design for a piece of furniture pops into your head. Right now is the best time to get your idea on paper, but you're late for your kid's soccer game. You scurry for a pencil and a piece of paper and begin to produce rapid thumbnail sketches. They are spontaneous. The lines document the rush of ideas. Any attempt at refinement now will quickly kill the creative output. Even worse, you might miss that fantastic full-volley scissors kick to the upper left corner of the goal that your child is about to make.

An inspired thumbnail sketch is fine, but you'll probably want to refine the drawing before you go into the shop and start building the piece. Maybe you just need to work out some details. Maybe you need a presentation drawing to show to your client. A technique that works for me, and that I teach to my students, is to refine a thumbnail sketch with transparencies. By tracing the original drawing on pieces of tracing paper, you can make changes as you go and progressively develop a design in an efficient and controlled fashion.

Before you start with the tracing paper, you may need to redraw your thumbnail in the scale and perspective you want for the final drawing. I call the scaled, redrawn version a foundation drawing because it's what you use for further tracing-paper modifications.

I like to work in two-point perspective. It has a nice way of showing a piece of furniture as it's most often seen in reality. This technique works just as well with multi-view drawings that show the top, front and side views of a piece.

A transparent exercise. By tracing and redrawing your original sketch on a succession of pieces of tracing paper, you can develop a design in an efficient and controlled way.

When you're happy with the scale of your foundation drawing, tape a piece of tracing paper on top. Trace the parts of the drawing that you think are good. You may like a particular curve or the way a space is divided. It's easy to change the parts of the drawing that aren't working so well.

There are many benefits to working with transparencies. I think you'll find that as you continue the sequence, your drawings will improve. The beginning drawing, or any one along the way, is always available to go back to. You haven't erased any lines or cluttered up the drawings with development lines.

I find this backtracking works particularly well for furniture design. I'm often trying to work out specific components or details, like the curve of a leg or the placement of the hardware. Using overlays, I can redraw just the leg or the hardware until I get it right.

The repetitiveness of this procedure has benefits beyond those already mentioned. By tracing the basis of a design a number of times you become very familiar with it. You'll find that your later drawings are done rather intuitively. By then, the points

Photos: Scott Phillips; drawings by Stewart Young

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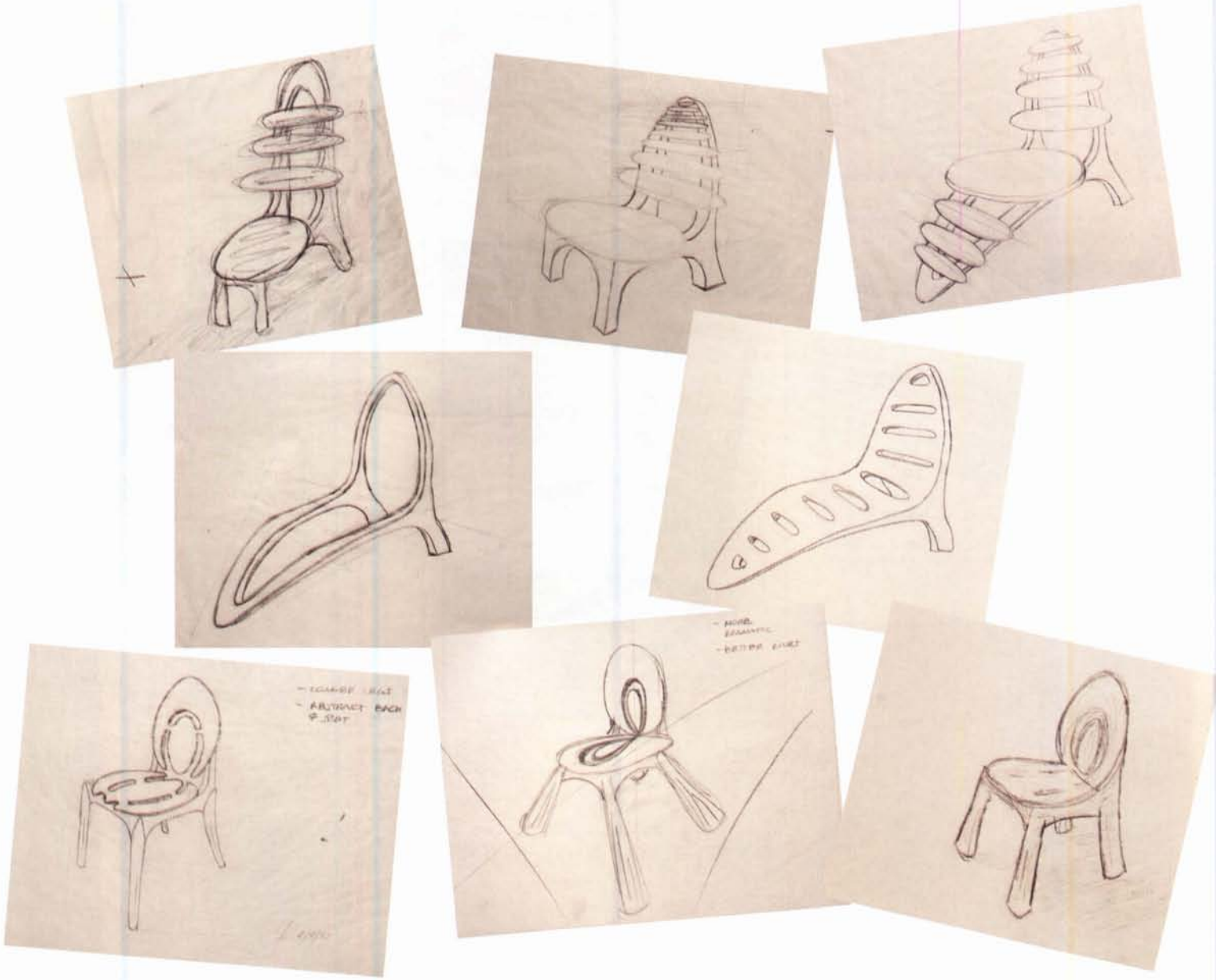
Beginning with *Home Furniture* Aug/Sept 1997, we will have a section just for you. Please call 800-926-8776, ext. 829 for more details.

FROM THUMBNAIL TO PRESENTATION DRAWING

When the author's student, Stewart Young, worked on the design of a chair, transparencies allowed him to move quickly from the thumbnail sketch (upper left) to the presentation drawing (bottom right). He made his changes quickly and then evaluated each transparency on its own.



of perspective, the proportion, the design elements and the shapes are all very familiar. The drawings are loose. The lines are bold. The tentativeness of drawing particular parts of the design disappears. Familiarity with the design encourages confidence in your drawing, and this confidence leads to an artistic line quality.

Back to the soccer game. What a goal it was—a thing of real beauty, accomplished spontaneously but prepared for by enduring practice. Really, very similar to refining your thumbnail sketches.

David Kenealy teaches in the Fine and Creative Woodworking Program at Rockingham Community College in Wentworth, N.C.

craftsman's corner

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Just the piece for just this place. The author's job was to design dining furniture that would suit this 1908 bungalow filled with built-ins and furniture in the Stickley style, but would also soften the room's rectilinearity. He succeeded by modifying dining table and chair designs by Greene and Greene.

Letting the Room Determine the Design

Dining furniture from the Asian end of Arts and Crafts adds spice to a bungalow

BY DARRELL PEART

It can be exciting to design furniture that makes a strong personal statement. But the reality is that making a piece of furniture that works in a room and not just in isolation usually calls for more diplomacy than self-declaration. In architecture it's called contextualism: taking cues from the surrounding buildings and landscape to design a new structure that fits in rather than stands out. To me, designing furniture this way is a pleasure as well as a challenge. Instead of being focused at the drawing board, much of my effort goes into assessing all the millwork and furniture in the room where the piece will stand, then finding a style that is compatible, and finally adapting that style to the particular circumstances. A dining table and chairs I made recently serve as an example of this approach.

SIZING UP A BUNGALOW

Seattle is full of bungalows. Many of them, like the one in these photos, show the impact of Gustav Stickley's work. My clients' bungalow went up in 1908 and might have been built directly from plans published in Stickley's magazine, *The Craftsman*. When I first walked in, I was immediately impressed with the harmony of the place, the way the house and the furniture all seemed of a piece. However, it was not a period piece, something rigidly conforming to what might once have been, but a sensitive blend of styles and details that respected the past

Photos: Jonathan Binzen; drawing: Vince Babak

The table base is bulked up from the Greene and Greene original to hold its own *with the* heavy furniture and millwork around it. The author widened the legs, shortened the stretchers and thickened the tabletop.

and made room for the present. To this impressive composition I was asked to add a dining table and chairs.

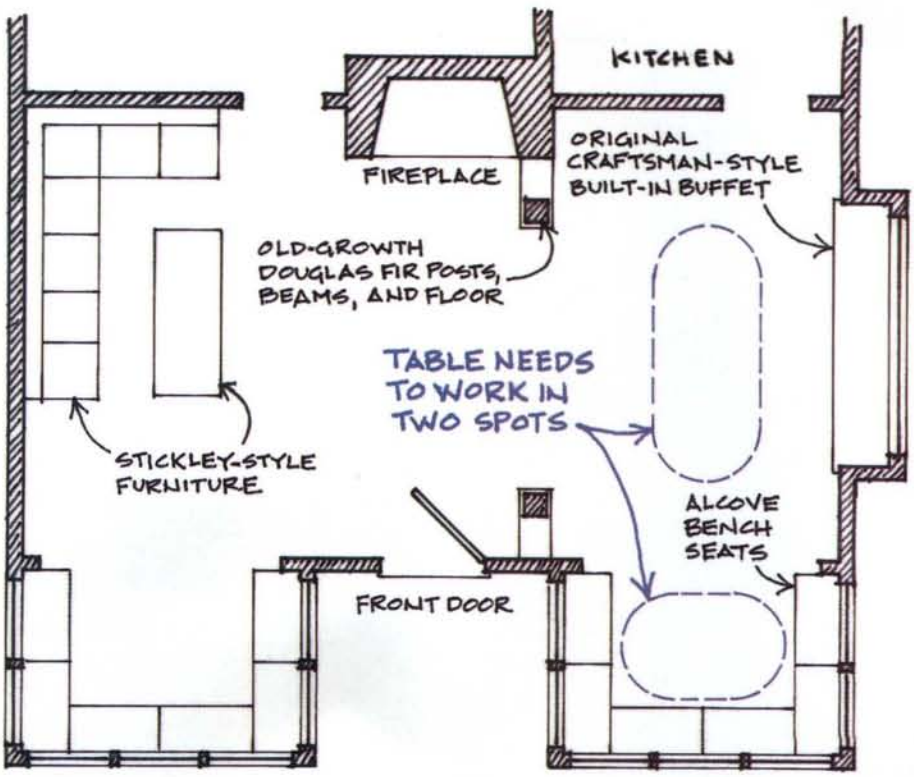
That feeling of harmony, I learned, was hard won. The owners of the house had just finished an extensive renovation. When *they* had first entered the bungalow, it had looked quite different. The woodwork was painted black, the floors were covered with orange shag carpet, and the brick fireplace was painted gold. They reversed all that with renovations in keeping with the Stickley lineage, restoring many of the original architectural details and adding freestanding and built-in furniture in the same vein. And then they added an Asian spin of their own.

Jim Grazzini, the contractor for the renovation, built a pair of Stickley-style couches and a coffee table for the living area, with wall-hung bookshelves above. He added cushioned window seats to the alcoves at the front of the dining and living areas and also restored a built-in buffet that was original to the house (see the floor plan at right). The work was done in Douglas fir to match the original millwork. Keying on the owners' interest in the Far East, Grazzini spiced the original Arts and Crafts theme with some Oriental elements, including shoji screens, which he fitted to most of the windows. All of these things helped guide my search for a table design.

LISTENING TO THE CLIENTS

The renovation was an expression of what my clients liked, but I wanted more input. I talked with them at length and observed their taste in other things to help reach a design that satisfied us all. They had a firm idea of what they wanted for their table and chairs, but no preconceived notions as to how to accomplish it. They asked that in addition to blending with the original and newly introduced themes in the house, the dining furniture should meet a number of criteria.

A FURNITURE MAKER'S SITE MAP



For informal settings, the table was to fit within the bench-lined alcove at the front of the dining room. For more formal occasions the table was to be expandable to 95 inches and would occupy the open space in front of the built-in buffet.

They knew they wanted something that would fit in with the Stickley style, but they didn't want to be overwhelmed with a lot more straight lines and heavy elements.

They also mentioned that they liked the design of the windows in the alcove, which were faceted at the top. They wondered if the table could be tied in to those windows by incorporating some facets or angles. Still, they did not want the table top to be rectangular or polygonal, sensing that a round-ended form would better suit the room. And being very conscious of color they wanted the wood to blend well with the woods already in place.

Faceted frames link the table and the house. After his clients mentioned they liked the angled frames of their alcove windows, Peart chose a table design with a faceted frame around the top; it pleased them and gave the table a sense of belonging.

Eastern accent in an Arts and Crafts alcove. With evidence of Japanese influence in their back-splat butterflies and crest-rail cloud lifts, the chairs and table fit snugly in the shoji-screened alcove.

WE FIND THE ANSWER IN A STACK OF BOOKS

I often approach design problems with a stack of books. As my clients and I began sifting through my pile of Arts and Crafts furniture books, nothing was even remotely close until we reached the work of Charles and Henry Greene. The beautiful blend of Arts and Crafts and Far Eastern influences in their designs was particularly appropriate for the bungalow. It was fitting, too, that we take cues on designing in context from the Greenes, architects who would design not simply a structure but an integrated environment from rain gutters to footstools. Almost every piece the Greenes made was specifically designed to suit its site, so I felt good about tweaking one of their designs to fit a new environment.

When we came upon the extending dining table from their house for William R. Thorsen, we knew we had found just the thing. It was a design that could fit comfortably with both the Stickley and Asian flavors in the room. And it answered nearly all the other criteria we had discussed. Its top was comprised of a veneered panel framed by solid edging. When closed, the frame-and-panel top was round; yet the solid frame, curved on its outside edge, was comprised of a series of angled sections which formed a faceted line on the inside edge where

they met the veneered panel. The table's base was faceted as well, echoing the top. Overall, the table was far lighter and more sculptural than much Mission furniture. And the 1909 date of the original table closely matched the 1908 date of my clients' house.

ADAPTING AN OLD DESIGN

Now it was a matter of scaling the Greenes' table from the photo and customizing the design. I started with the top. In the Greenes' table the frame of the top sat proud of the panel it surrounded, bringing attention to the faceted shape. I liked the effect, but my clients felt it would make things too tippy for the dinnerware. So I made the frame flush with the panel, but reduced the number of frame segments, making the angles more pronounced. I also inlaid dark stringing between the frame and the panel to further highlight the faceting.

The Greenes had made the top of their table quite thin—perhaps three-quarters of an inch. I thought it would need more heft to stand in the room with my clients' other furniture. I doubled its thickness. Then I rounded over the lower edge to soften it visually and to play off the curvature of the top.

I made several changes to the base, as well. My clients thought the base of the original table came too close to the perimeter of the table and might restrict legroom, so I gave my base a smaller footprint. I did so by shortening the stretchers. I left all other dimensions alone, however, which made the base look beefier. I also changed the shape of the legs at either end of the table. In the Greenes' table they are square in section. I made those legs with a V-shaped cross section. I hoped it would both emphasize the faceted shape of the base and make the table look a little heavier. Here and elsewhere, I was adding visual weight to reach a point of moderation between the Greenes' lighter, more complex work and the heavy starkness of Stickley.

Less graceful Greene and Greene. Peart deliberately made the chairs less sculptural than the originals, designed for Greene and Greene's Gamble House, thickening the side posts and crest rail to avoid seeming too delicate in contrast with the surrounding furniture.

WHICH CHAIRS FOR THIS TABLE?

With Greene and Greene a fixed part of the equation, my clients and I chose the living room chairs from the Greenes' 1908 Gamble House to accompany the table. We deliberately chose one of their simpler chair designs. They did many more complex chairs in that era, beautiful things rich with low-relief carving and inlaid ebony accents, but the room we were furnishing wouldn't support too much sculpture and delicacy. Not to mention that a lot of inlay would put us way over budget.

I altered the design of the Gamble House chairs in several ways. First, I made them narrower. That enabled me to fit more of them around the table. And in combination with a thickening of the legs, this gave the chairs a stouter appearance that I thought would make them work better in that room. I also made the crest rail a bit less sculptural and a little thicker than on the original. And in place of the square ebony pegs that the Greenes favored, I used round ones of Ebon-X, an ebony substitute made from dyed walnut. Round pegs and holes were easier to make, and I liked the way they advanced the theme of curves that the table introduced.

I'm quite happy with the way things turned out. But the compatibility of the Greene and Greene designs with a Stickley-style bungalow and its built-ins is no coincidence. The Greenes may have practiced exclusively on the West Coast, but they were well aware of Stickley, and even filled some of their first houses—designed before they had begun designing their own furniture—with pieces ordered from Stickley's catalogue. So you could say that with this commission, almost 90 years later, I've simply turned the tables. ■

With all four leaves in, the 29-in. high table is 95 in. long and 53 in. wide. Without leaves it's a 53-in. diameter circle. Both table and chairs are cherry with Ebon-X accents. The finish is Daly's Profin, a urethane varnish.

Blue lacquer acts like a uniform, drawing the eye to the table's unusual geometry. The striking ash grain peeks through the color, adding texture to the crisp, angular surfaces.

Bold Color and Geometry Expand a Table's Horizons

BY HENRY FOX

"This is the color I want it to be," the client said as she chose the bold, blue piece from the array of lacquered ash samples we had prepared for her. With this statement and little else, we set out to design a breakfast table for a sunny alcove with a panoramic view of the Atlantic. Our task in the shop was to figure out what that blue might look like.

Despite its simple appearance, there is more to this table than its bold color. The legs taper on the outside faces rather than on the more common inside faces. The top is wedge-shaped, not uniform in thickness, and the unusual leg placement makes it look as though the top is being cradled by the legs.

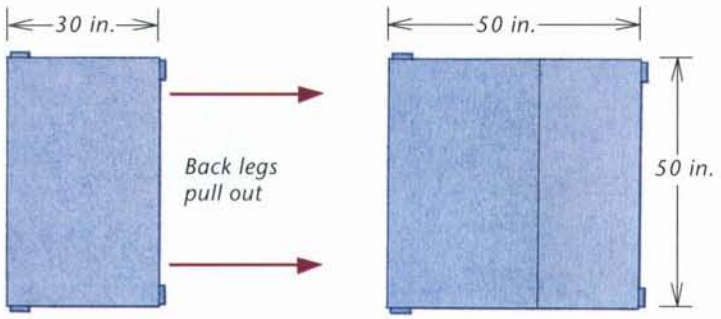
These features were not the result of

Stability in a wide stance. The tapered legs on this breakfast table notch around the wedge-shaped top (left). This maximizes the space between them, which increases stability as well as seating room.

Legs pull out like a drawer. The two back legs smoothly pull out on full-extension slides (right), making room for an expansion leaf with aprons. Mortises in the top accept tenons in the leaf.

LEG PLACEMENT MAXIMIZES SEATING ROOM

Notching the legs around the top at each corner, as shown in this top view of the table, increases the space between the legs, with or without the extension leaf.



whimsy; we just wanted the table to be stable, practical and related to its surroundings. The wedge-shaped top has two sources: One is the home itself, a modern structure perched on a rocky promontory, with angular lines, a nonrectilinear layout and crisp, contemporary detailing. The other is the view. We thought the tapering top would be a subtle gesture to the horizon line of the ocean. By tapering the table in a dramatic way, it might appear to recede to the same vanishing point.

The leg design was driven as much by function and engineering as it was by aesthetics. Rather than overhanging the base, the tabletop sits in notches cut into the tops of the legs. This allowed us to place the legs to the extreme outside edge of each corner, maximizing the seating room. It also improves stability, an important consideration for a narrow table.

Because the notched legs stick out from the sides of the tabletop, they are a strong visual element. Instead of situating the legs the same way in each corner, we made a front and a back side. The front legs are opposite each other on the short sides of the table, leaving a wide space in between. The back pair of legs are both on the long side and are closer together. These legs, including the apron in between, slide out like a drawer to make room for an extension leaf (photo above right). Dovetailed extension slides allow the leg assembly to be pulled smoothly away from the main table without compromising the wide stance. This construction also sidesteps the problem of having a seam in the top when there is no extension leaf.

The deep blue color transforms the shades and variations of the wood into a uniformly bright surface, drawing attention to the unusual geometry. We didn't want to lose the texture of wood, though. We chose ash because it has a pronounced and striking grain pattern that shows through the lacquer, making it clear that wood is underneath. ■

The table is 50 in. long, 30 in. wide and 30 in. high. With the extension leaf, it is 50 in. square. The ash is coated with a spraying lacquer tinted with blue pigment.

Photos: Zachary Gaulkin; drawing: Vince Babak

Furniture for two. A good cradle is comfortable for infant and parent alike. Raising the cradle off the floor also helps keep a baby away from cold drafts and playful siblings.

A Cradle that Swings High and Low

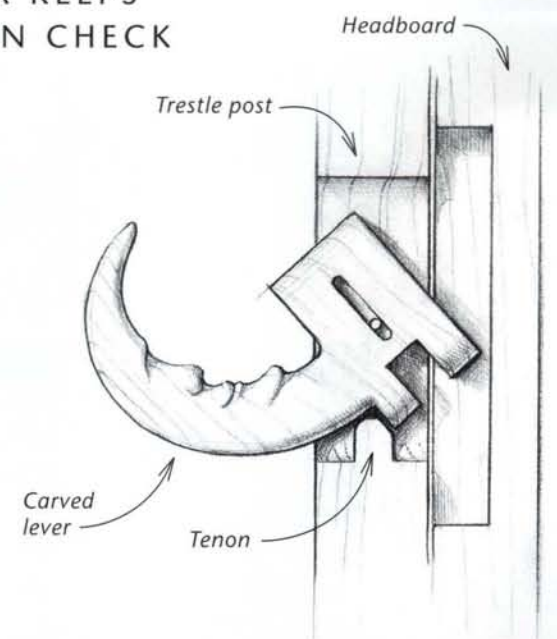
BY TIMOTHY CLARK

A cradle has to fit two completely different people, one large and one small. For an infant, a cradle is a gently rocking haven of comfort and safety, ideally built to quietly and smoothly coax a newborn to sleep. Parents, on the other hand, have requirements of their own. My customers wanted their cradle to be high enough so that they could tend to the baby comfortably either standing or sitting in a chair. But they also wanted a cradle that could rock on the floor, as well as something that could be easily transported from room to room.

I already had made a swinging trestle cradle for a relative, so I had somewhere to start. In the research I did for that first cradle, I learned that most traditional cradles are the floor-rocking variety; I found few examples

CARVED LEVER KEEPS THE CRADLE IN CHECK

The cradle is locked in place by raising the lever and pivoting it into a notch in the headboard. The lever recess is made by a series of router cuts in the trestle post. You can't inadvertently lock or unlock this cradle because you need to slide the lever up, over the tenon, before you can pivot it in either direction.



The cradle swings smoothly because the maple peg rolls from side to side in the notch at the top of the trestle post. The moon-shaped lever locks the cradle to the stand.

The customers wanted a cradle that could be used on the floor as well as in the trestle base, making it easier to move around the house.

of early American swinging cradles. I tore out some pages from catalogs and I talked to people with young children to find out how they liked the ones that they owned. I used the catalogs to begin figuring out dimensions, such as the height of the sides, and to determine standard mattress dimensions—generally 18 inches wide and 36 inches long.

As with this cradle, the first one I made hung in a trestle base, or "standard," but it had a flat bottom and the cradle was not detachable from the base. Also, because this early version was permanently attached to the base, it was awkward to move from room to room.

In my current adaptation of the design, I added curves to the bottom of the cradle so it can rock on the floor. I also changed the way the cradle attaches to the trestle base, which led to an improvement in the swinging mechanism. Instead of inserting pegs into a hole in the cradle stand, I let

Photos: Zachary Gaulkin; drawing: Bob LaPointe

Another Way to Lock the Cradle

BY WILLIAM WHITE

When I designed a cradle for my first grandchild, I wanted to be able to easily lock the cradle basket to the stand. This is a useful feature not only for keeping the basket still when in use, but it also makes the cradle easier to carry.

Most cradles I've seen have a locking mechanism at only one end. In my design, I wanted a convenient lock that would pin the cradle at both ends to prevent racking forces from needlessly stressing the joints when the cradle is moved.

The mechanism I settled on inserts two brass rods through the ends of the cradle and into holes drilled in the trestle stanchions. The brass rods are moved by a pivoting lever that protrudes through a slot in the side of the cradle. With just a flick of the wrist the basket is locked and the cradle can be moved.

To lock the cradle to both ends of the stand, White designed a mechanism activated by a discreet lever.

The lever is attached to two brass rods which are inserted into the trestle stanchions. Brass makes the pivot mechanism smooth to operate despite changes in humidity.

the maple pegs rest in a flat-bottomed notch at the top to the trestle. When the cradle swings, the pegs simply roll from one side of the notch to the other, offering almost no resistance. The cradle swings for several minutes before requiring another gentle push.

The character of a cradle's swing—short and choppy or long and gentle—depends on the placement of the pivot point—in this case, the maple pegs. The shorter the distance between the pivot point and the bottom of the cradle basket, the tighter the swing will be. In this design, the distance is only 8½ inches, which is on the short side. Some swinging cradles have a radius of 12 inches or more.

While cradles are meant to swing freely, I felt it would be a good idea to prevent the cradle from swinging too high in case an overeager sibling decided to turn it into an amusement park ride. The sides are high enough (about 9 inches) to keep an infant tucked safely inside during normal use, but extra insurance never hurts. To limit the cradle from swinging too high, I simply positioned the crosspiece of the trestle base so that the bottom of the cradle would hit the base before it swung too far.

Finally, parents sometimes like to keep cradles locked, I learned, in order to have a stable landing pad for the incoming (or outgoing) infant. To keep this cradle from rocking, I made a simple lever on one end that protrudes through the trestle and locks the cradle in the center of its swing (see drawing and top photo on previous page). The furniture I make usually has clean lines and surfaces and I seldom get the opportunity to carve. In this case, however, I felt I could play a little, so I carved a moon into the lever handle and I left that as the only decoration. ■

The overall dimensions of Timothy Clark's cherry cradle are 42 in. long, 23 in. wide and 41½ in. high. The mattress rest is 24 in. off the ground when the cradle is in the stand. It's finished with linseed oil and paste wax.

Lightening the Look of an Entertainment Center

BY RICHARD JUDD

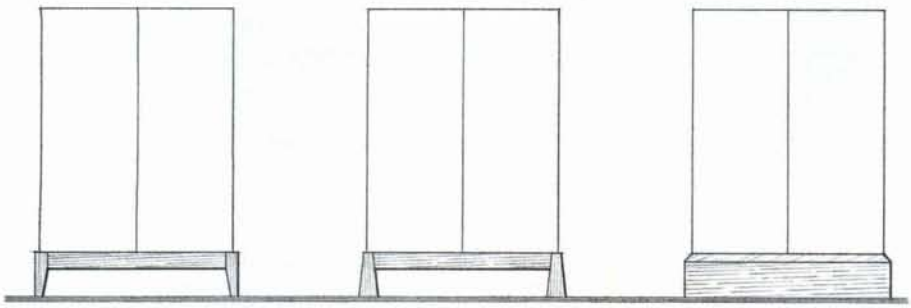
Doors fold flat against the sides. In lieu of pocket doors with their heavy hardware, the author used hinges with a 270° swing.

Entertainment centers are a bear. Not only are they big and heavy, but usually they're also heavy looking, imposing and awkward. I find an inherent problem in trying to hide a large television, a VCR, stereo equipment, tapes and CDs behind closed doors: The cabinet often ends up looking like a refrigerator box.

Prior to the commission for the entertainment center in these photos, I had built a different one. The cabinet was a success; it did what my clients wanted it to do, but I learned a few lessons from its design and construction. That first entertainment center sat on an enclosed plinth, and had corner posts that tapered from thick at the floor to thin at the top, making it look massive and grounded. All the panels were constructed using medium-density fiberboard (MDF) and were veneered on both sides. And the pocket doors required a cabinet within the cabinet to mount the heavy mechanical slides and hinges. The cabinet was painfully heavy for two people to lift.

When I was commissioned to build this entertainment center, the only thing the clients told me was the size and approximate weight of their television. My recent experience had a strong influence on my desire to keep

VISUALLY UPLIFTING



Legs that taper from thick at the top to thinner at the bottom (far left) make a cabinet seem lighter. A taper in the other direction (center) or a solid base (right) ground a cabinet, giving it a heavier look.

Photos: Jefferson Kolle, except where noted; drawing: Vince Babak

Behind closed doors hides an array of audio/visual equipment. The dark wood and tapered legs of the base give a visual lift to the large rectilinear cabinet.

this piece scaled down to the minimum size for the required functions.

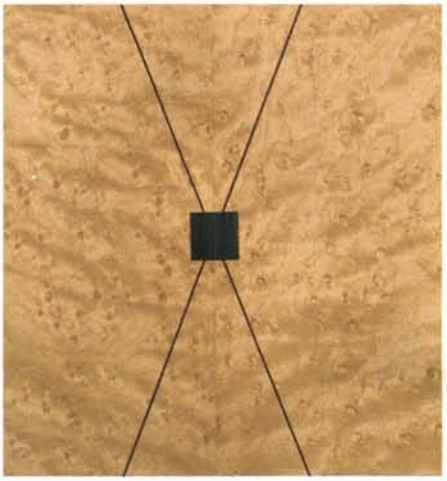
My background is in architecture; I studied during the Modernist era when the Bauhaus architects were revered. "Less is more," they said. For this new entertainment center, rather than decide on a shape and size of the exterior and then work out the details of the interior, I started by laying out the interior. Below the space for the television, I placed a center divider to support the weight. On either side of the divider I provided adjustable shelves for VCR and stereo equipment. The size of the cabinet was kept to a minimum by designing it around what it would be required to hold. Form followed function.

REDUCING THE WEIGHT

To lighten the cabinet's weight I used ¾-inch birch plywood that is considerably lighter than the MDF I used on the last cabinet. And in lieu of the pocket door system, I used some beautiful brass hinges that allowed the doors to swing 270°, enabling them to fold flat against the sides of the cabinet.

Unlike the European hinges that I normally use, these brass hinges aren't concealed, but they are so beautiful as to become a design feature of the cabinet. I also eliminated the weight of the heavy mechanical slides and the extra space needed for the pocket doors.

A center divider supports the weight of the television and partitions the lower cabinet for stereo components and a VCR.



Just right malachite. Inlaid squares of malachite in each door are focal points at the intersection of the diagonal line inlay on the front of the cabinet.

Functional beauty. The author chose these brass hinges with their subtle, jewelry-like appearance to complement the cabinet's other small details.

REDUCING THE VISUAL IMPACT

I used bird's-eye maple veneer to cover the whole cabinet. The choice of bird's-eye maple makes this large piece seem light and bright compared to a dark wood that would have a heavier effect.

A cabinet of this size and rectangular form still has a monumental feel to it. I inlaid some black diagonal lines on the doors to break up the surface area into smaller sections. A wonderful thing happens with these contrasting inlays. The lines seem to float off the surface of the bird's eye maple, adding depth to the flat plane. The shadow line where two doors meet mimics the door inlays and becomes part of the pattern.

At the center of each door, where the diagonal inlays cross, I inlaid a one-inch square of malachite. The semiprecious stone inlay is a nice counterpoint to the jewelry-quality construction of the brass hinges.

AN UPLIFTING BASE

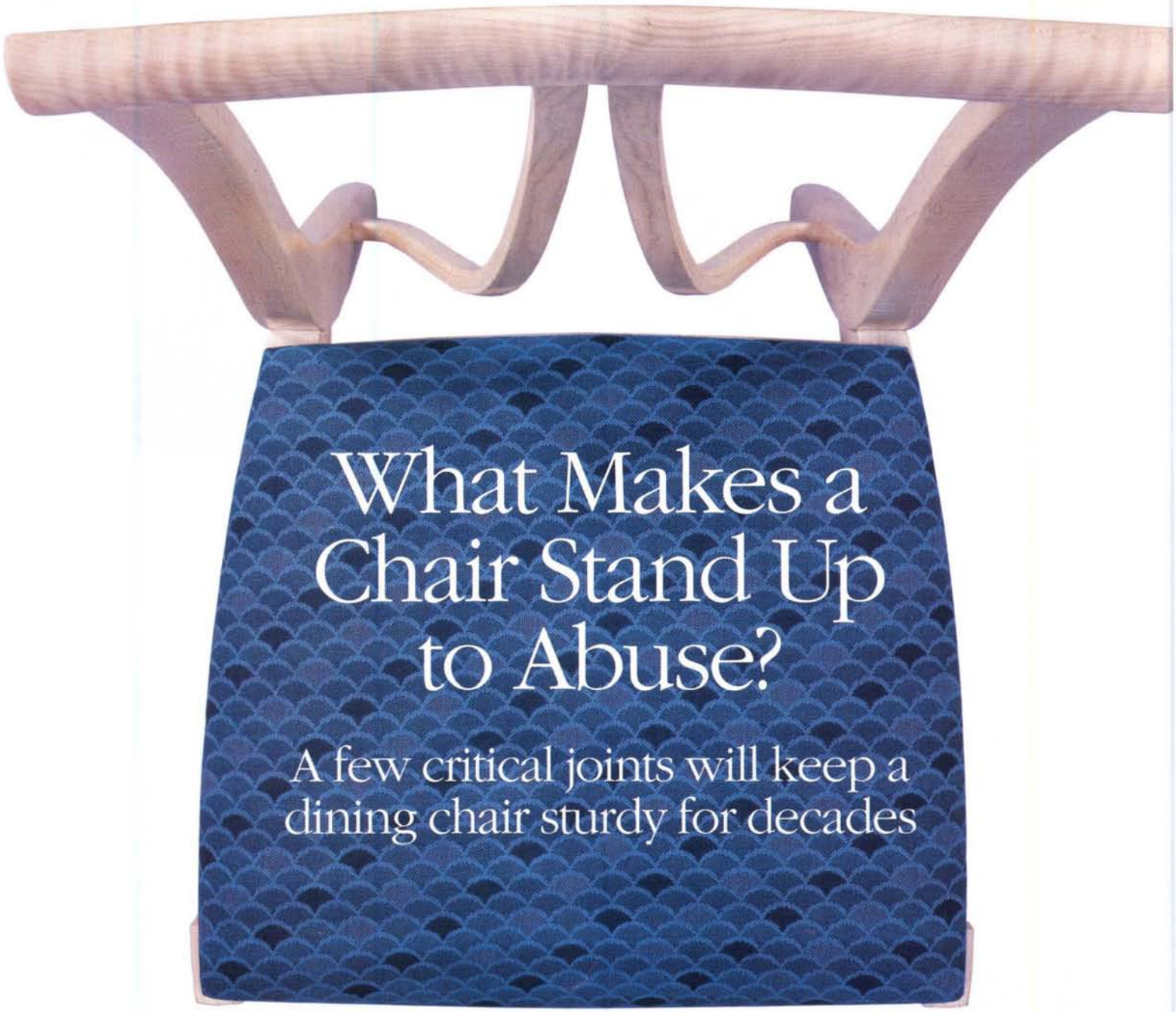
The base for the cabinet is also designed to create a lighter visual impact. First, the choice of dark African wenge contrasts with the bird's-eye, which seems to float the cabinet in space off the floor. A 6-inch open space below the rail gives the cabinet an actual as well as a visual airy quality.

By making the legs taper from thick at the top to thinner at the bottom, the whole piece seems ready to take off. Contrast this with a leg that starts out wider at the floor and narrowly tapers as it goes up (see the drawing on p. 33). This leg would be like a tree trunk with a strong connection to the ground. If the base of the cabinet was completely enclosed it would look even more grounded.

I think I was able to tame the bear for this entertainment center. The design of this piece clearly benefited from my being the bottom guy going up the stairs delivering that last one. ■

The entertainment center is 58¾ in. high, 40¼ in. wide and 25¾ in. deep. The brass hinges used in the piece are available from Hafele America (3901 Cheyenne Dr., Archdale, NC 27263; 800-334-1873).

Photo top center: Courtesy of Richard Judd



What Makes a Chair Stand Up to Abuse?

A few critical joints will keep a dining chair sturdy for decades

BY JERE OSGOOD

Nearly 40 years ago when I was learning how to make furniture, my fellow students and I spent a lot of time designing chairs. Whenever we finished one, our instructor, Tage Frid, would sit in the chair. "Sit" isn't the right word. He would land on it hard, tip it onto its back legs and wiggle around to see if it was going to fall apart. I never saw a chair break, but I witnessed a lot of sweating students.

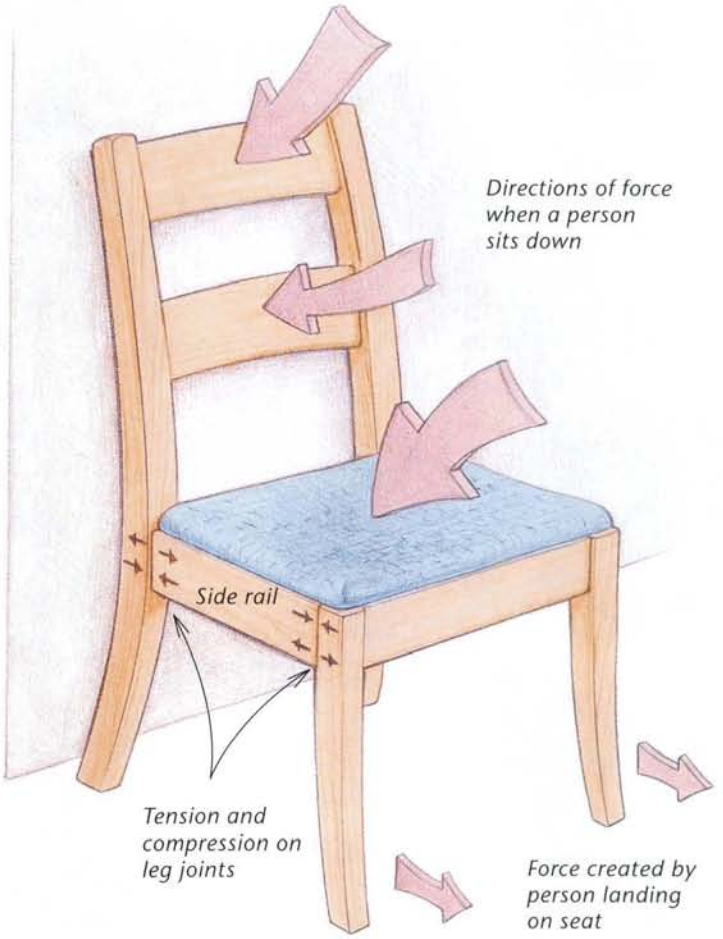
Another Scandinavian furniture maker, the Swedish designer Carl Malmsten, once said that chairs are "the most difficult member of the furniture family to master." I think this is true. A chair, especially a dining chair, bears burdens unlike any other piece of furniture in a home. Its successful design depends as much on solid engineering as it does on aesthetic sensibility. To build a dining chair that is both beautiful and strong requires careful attention to the forces working against it.

What are those forces? First and foremost, a chair supports a person many times its own weight. This weight comes and goes, moves and shifts. Different parts of a chair experience stress and strain at different times. Sec-

It looks good, but will it hold up? Behind the lissome lines of this chair is a carefully engineered skeleton designed to withstand the substantial force of a 200-pound dinner guest.

THE FORCES WORKING AGAINST A CHAIR

People land hard in a chair, so the joints must be strong enough to withstand this stress. In this basic chair design, the strength of the joints between the seat rails and legs is critical. Improperly designed, the joints work loose and the chair wiggles.



ondly, as Tage Frid illustrated to us, the weight is deposited on a chair with force, not gently and gradually, so it must be able to withstand these moments of impact. Chairs also get dragged around the house for all sorts of purposes, from eating and lounging to working and sometimes even changing a light bulb. Few pieces of furniture work this hard.

Every chair design accommodates these forces in different ways, making it difficult to establish ground rules that can be applied to all. Most wooden chairs, however, share a few critical connections holding the seat and legs together. The success of these joints will, in large part, determine whether a chair design will stand or fall after years of use.

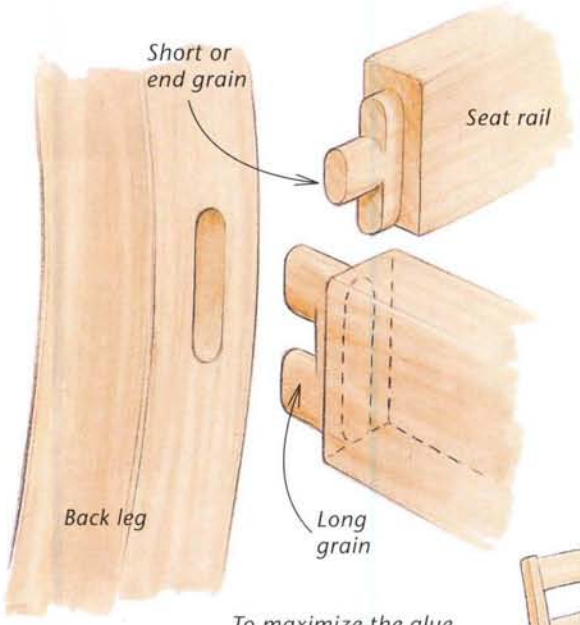
SEAT RAILS CARRY THE LOAD

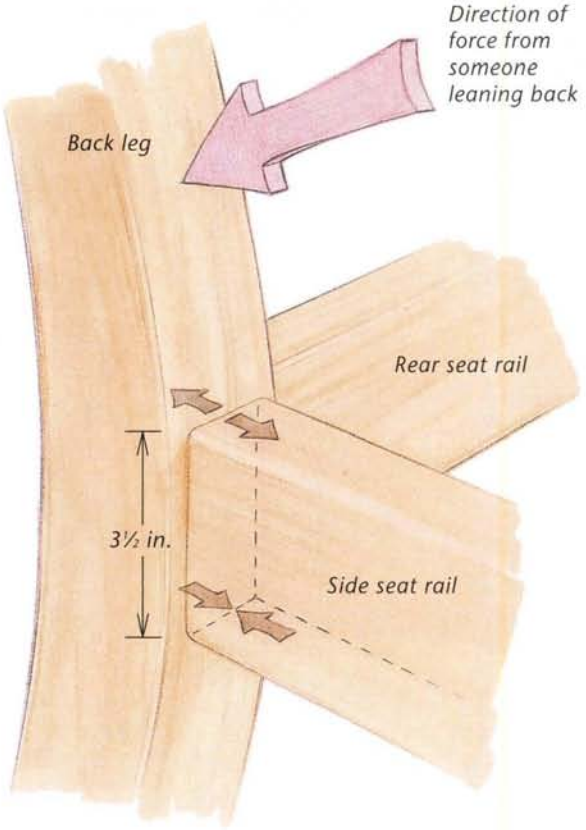
When Tage Frid dropped himself onto a chair, he would push his weight into the back, sometimes tilting onto the rear legs. You may be doing this right now as you read this article. If you are, notice how the back becomes a lever when you lean into it. This weight exerts tremendous force on the intersection between the back and the seat,

Photos this page and facing page: Dean Powell; drawings: Bob LaPointe

SEAT RAIL WORKS THE HARDEST

The joints between the side seat rails and the back legs bear the brunt of the weight. The top of the joint, under tension, is being pried apart by the force of someone leaning back. The bottom is in compression and will help resist this force.





To maximize the glue bond without weakening the leg, the author uses haunched or "webbed" tenons on the seat rails.

The width of the rail is more important than its thickness. The author recommends a minimum of 3½ inches.

Bigger doesn't always mean stronger, as the author illustrates with this chair he made in the 1950s (left). The seat rails are plenty thick, but strength comes from width, not thickness. These rails were too narrow and wiggled loose over the years.

Trim back the tenons to minimize the amount of material cut out of the leg for the mortises. Both the side and rear rails shown here (right) have ample long-grain gluing surface.

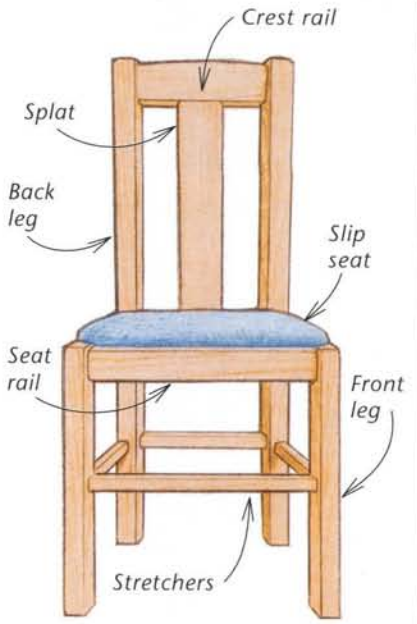
pushing these pieces apart. Not surprisingly, this is one of the most important joints in a chair (see drawing facing page). If this joint is poorly designed—and I know this from experience—the seat rail will work loose from the back leg. It may not collapse, but the chair will soon wiggle.

In most wooden chairs (other than Windsor-style chairs) the seat rails have tenons that fit into mortises in the back legs. The tenon has to withstand the weight of the sitter as well as side-to-side racking forces. Therefore it must be thick—at least ⅜ inch but I prefer to make them closer to ½ inch. I have seen tenons that were too small simply snap off. To get the most mechanical advantage, the depth of the tenon should be more than half the width of the back leg.

Another important consideration is the glue. Today more than ever we rely on adhesives to hold a chair together. This makes it possible to build strong chairs with less material, but it also means maximizing the strength of the bond. One way to compare different joinery options is to measure the total area of the long-grain gluing surface. I measure the long-grain faces of the tenon and the corresponding sides of the mortise and compare different joints to see which has the most gluing surface.

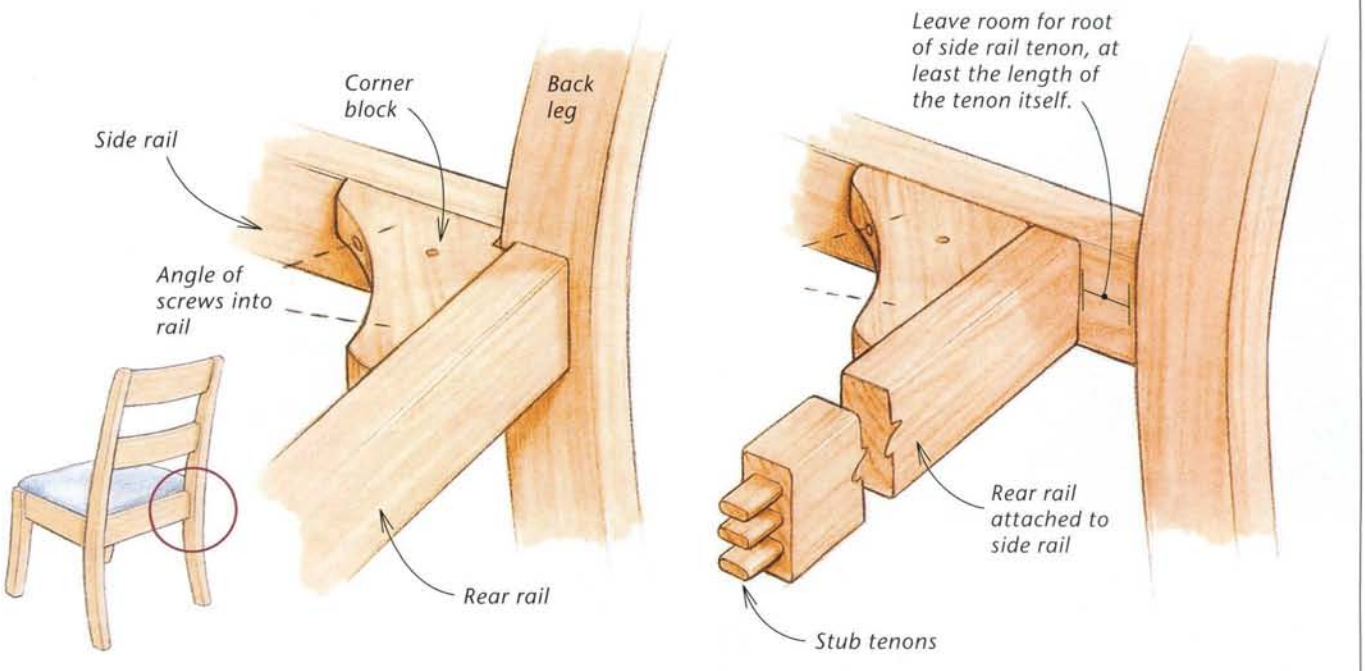
Chair joinery is a balancing act, though. A large tenon with lots of gluing surface will be stronger than a smaller one, but it also means that more material must be removed from the back leg to make the mortise. A gaping mortise in the back leg may fatally weaken its strength, defeating the purpose of the strong tenon. If the chair has a rear seat rail mortised into the back legs at the same spot, this will

ANATOMY OF A DINING CHAIR



MORE THAN ONE WAY TO CONNECT THE BACK LEGS

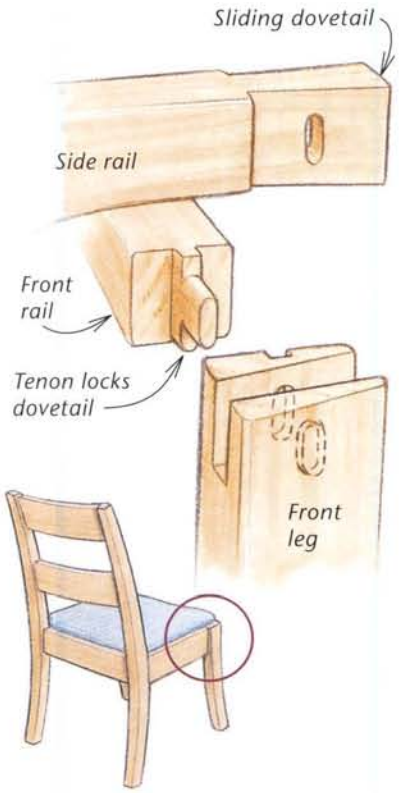
In many chairs, the back legs are connected by a seat rail, which is often mortised into the leg at the same spot as the side rails. Moving the rear seat rail so it spans between the two side rails means fewer mortises in the back leg. Corner blocks reinforce the joints and provide a secure place to anchor a slip seat.



Photos: Zachary Gaulkin, except where noted

DOVETAIL LOCKS THE FRONT LEG

The author uses a sliding dovetail to fasten the side rail to the front leg. The dovetail is locked in place by the tenon from the front rail.



Sliding dovetails keep on working even if the glue fails. Corner blocks reinforce the joint and serve as a good place to fasten an upholstered seat.

weaken the leg even further.

One solution is to make haunched or "webbed" tenons that are either T-shaped or U-shaped (see drawing on p. 38). This reduces the size of the mortise without sacrificing the length of the tenon. Although there is less gluing area, it still makes a strong joint. Another way around this dilemma is to attach the rear seat rail to the side seat rails just inside the back legs using stub tenons, but not so close as to interfere with the roots of the side rail tenon (see bottom right drawing on p. 39). I can then run the back slats past the seat and either attach them into a lower stretcher or directly into the back legs.

The dimensions of the rails are as critical as the joints. No amount of joinery will help a chair survive years of use if the rails are too small. Width is more critical than thickness, because the rails must withstand tension and compression forces. A chair I made 40 years ago has rails that are plenty thick—nearly two inches—but the width is far too narrow and the joint has failed (see left photo on p. 38). I have found that the seat rail should be at least 3½ inches from top to bottom where it meets the back leg, especially if the chair has no stretchers.

Finally, the rear seat joints are stressed the most when someone tilts a chair onto its back legs. As an insurance policy, I try to position the bottom of the back legs further behind the seat than the top. The more the legs angle back, the harder it is to tip the chair onto the rear legs. There is a side benefit to doing this: The legs keep the top of the chair from scraping against a wall. If the legs are angled too far back, though, they become a tripping hazard.

FRONT LEGS ABSORB SOME OF THE STRAIN

The back leg-to-seat rail connection may bear the brunt of a 200-pound dinner guest, but I have seen a lot of broken front legs, too. When someone sits down in a chair, the weight pushes the front leg out, making the joint between the front leg and the seat rail work hard to stay tight (see drawing on p. 37). A strong joint in front fights this tendency. If this joint is weak, everything relies on the strength of that back joint.

For many years I have used a sliding dovetail to counterbalance the weight that pushes the front leg out (see drawing and photo at left). The dovetail is locked in place by the tenon on the front seat rail, creating a mechanical joint that has proven indestructible. With stronger glues, this may seem extreme, but I like insurance. It's not always possible to use a dovetail, but when you get the chance, take it. A locked dovetail is stronger than a mortise-and-tenon, and it will work even if the glue fails.

Corner blocks complete the seat frame. These small blocks, fastened to the inside of the seat rails, reinforce the joinery and provide a convenient spot to drive a screw into an upholstered seat frame. One word of advice: Don't rely on the seat itself to keep a chair rigid. A woven or upholstered seat may help tie things together at first, but seats invariably loosen with wear. If the chair is designed properly it should hold together with or without the seat.

STRENGTH IN STRETCHERS

The easiest way to strengthen a chair is by increasing the bulk of the parts, both the rails and the legs. While this method can sometimes overcome engineering deficiencies, it usually results in a heavy, clunky chair that may not break, but isn't very inviting. One way to gain strength without sacrificing delicacy is by spreading the load among a greater number of parts.

A stretcher system below the seat, for instance, will help resist twisting and racking forces on the legs, reinforcing the seat joints (see drawings on facing page). Shaker chairs often have several sets of turned stretchers encircling

the legs. These chairs are quite strong, yet each individual turning is light and delicate. To achieve the same strength without stretchers would mean bulking up the seat frame, which would change the design.

Adding arms to a chair does the same thing as adding stretchers, although the strength is up higher where it can help stabilize the back as well as the legs. The crest rail also holds the chair together and helps keep the back legs in alignment.

Strength comes at a price, though, and you may not want to pay it. I like to tuck my feet underneath the seat, for example, so stretchers down to the floor would not suit me. Instead, I might make the stretchers a little bigger but use fewer of them, keeping the chair strong while leaving more legroom underneath.

A solution that I like to use is a split side rail and stretcher combination. The lower part of the rail becomes a stretcher and meets the front leg about 5 inches below the seat rail, counteracting some of the tension on the front leg. In this case the joinery at the back leg has proven to be quite strong, which is why I have the lower stretcher curve into the seat rail at the back of the chair. It also makes the design more fluid and less rectilinear.

There are countless ways to counteract the forces working against a chair. The classic Thonet cafe chair is completely different from a Shaker ladderback. However you choose to address these structural problems, I strongly recommend full-size shop drawings and a full-size pine mockup. These are good places to analyze the joinery and engineering.

Structure and joinery are only two elements of any design. For me, making a chair is more about design than engineering. Comfort and style are far more important to most people. So durability has to be weighed against delicacy. Strength against comfort. Weight against beauty. Engineering is just one of the pieces to the puzzle. ■

STRETCHERS KEEP THE LEGS IN CHECK

Some chairs have no structure below the seat, but many have some sort of stretcher system which helps resist racking and twisting forces on the legs. Stretchers can be positioned any number of ways, as these examples show.

BOX STRETCHER
Shaker chairs often have delicate turnings, which means more parts are required to carry the load.

H-STRETCHER
The stretcher between the front legs is replaced by one connecting the two side stretchers, adding more room below.

OSGOOD'S SPLIT-RAIL STRETCHER
The rail splits to reinforce the front leg down low, where the extra support is needed.

ARMS ACT LIKE UPPER STRETCHERS
Arms tie the legs together and reinforce the joint between the back and the seat.

Uniting Two Cases in One Hutch Design

BY WILLIAM SKIDMORE

When my daughter Becky got engaged to Nort, I offered to make a piece of furniture for their wedding present. After thinking about it, they decided that what they'd like was a hutch, comfortably proportioned, like the best Shaker designs. Well, the Shakers seem not to have made dining room hutches, so the design was up to Becky and me.

We visited antique stores and pored over catalogues and furniture books, looking at various hutches for inspiration. The pieces that we saw were either tall and ungainly or short and squat. The former didn't have much storage space; the latter were too bulky looking.

The more we talked about the design, it became clearer that the reason most hutches fail was that when you take away the embellishments of doors, drawers and molding, they are nothing more than tall, simple, four-sided boxes. I realized that a two-piece hutch, one that was a box on a box, would be better looking. A break at a counter height of three feet would help a great deal with the proportions of the long, thin sides that make some hutches look so tall and skinny. If I set the upper box back from the lower on both the front and the sides, I would break the monotony of four long sides.

It turned out that making the hutch in two pieces was very practical, too. In my small shop, I could build the two-piece hutch without help, and I could move it easily in a pickup truck from my shop in Clearville, Pennsylvania, to Becky's home in Ann Arbor, Michigan. If I had made the hutch in one piece, it might have been like the boat that, once built, was too large to exit through the shop doors.

Pleasing proportions, lots of storage space. A narrower upper case, fitted with glass doors, lends lightness to a large piece of furniture. Aligning the cornice with the lower case unifies the two-piece hutch.

GETTING THE PROPORTIONS RIGHT

The proportions for the base were not difficult to work out. We looked at some of the furniture around our house for inspiration. The width of the hutch's lower case and the arrangement of two drawers over two doors came from the sideboard in our dining room. And the cock beading on the drawers came from a bureau we own.

The top section was another matter. How do you make the top section of a tall piece of furniture, with more than half of its height in the top cabinet, so it appears neither top-heavy nor an afterthought?

There were also more utilitarian considerations that had to work with the way the hutch looked. The shelves in the top section needed to be deep enough to stack 12-inch dinner plates; this, in part, dictated the depth of the upper case. Becky also wanted to display some of her china and silver. And she wanted to keep the large counter open, both to make it usable for serving and to show the beautiful cherry that she had chosen for the wood.

These requirements led to several decisions about the design. For one thing, we thought that glass doors in the upper case would add to the light and open feeling that we wanted to make the entire hutch seem less massive. The glass doors would also serve to showcase the china. A drawback to glass doors is that the shelves would be visible, adding to a profusion of horizontal lines in the otherwise simple upper cabinet. I effectively hid the shelves by mounting them at the same height as the muntins in the doors.

ARCHES TOP AND BOTTOM

To keep the counter open, we opted for a graceful arch under the top cabinet which we designed to mimic, but not duplicate, the arch at the base of the lower section. The arch in the upper case is taller, making the counter space more usable for serving food.

Both arches start as a simple curve

The shelves line up with the muntins, making for a clean, uncluttered look behind the glass doors.

Set back in width and depth. The smaller dimensions of the upper case reduce the overall bulk of the hutch as well as providing a counter surface for serving food.

Photos: Jefferson Kolle; drawing: Vince Babak

that flattens out into a long, prominent straight line. The long straight lines create the illusion of width which helps to balance off the hutch's 83-inch height.

UNIFYING THE DESIGN WITH A CORNICE

A lot of the commercially available hutches that we saw in stores and catalogs had some sort of cornice at the top. To my eye, most of these cornices just weren't right; they appeared to be nothing more than a tacked-on afterthought.

I did some sketches and decided that a big, simple, gracefully sweeping cove molding would be a fitting crown to the top of the piece, creating the impression that the upper case is larger than it is. This effect was achieved by getting the curve right and by extending the cove out over the countertop below.

On the sides, the cornice extends to a width equal to that of the lower case. And in the front, the cornice extends to a distance even with the face of the base—a little less than the countertop overhang. Having the cornice even with the sides of the lower case marries the two separate pieces into a unified whole. My drawings showed that a cove that extended beyond the sides of the lower case would make the upper case seem top-heavy. Conversely, a smaller, narrower cornice that undershot the sides of the lower case would seem puny and undernourished.

Becky and Nort's hutch is beginning to take on the deep patina of aging cherry. With cherry, and, I hope, with a good piece of furniture, one can believe the poet, Robert Browning, who wrote: "Grow old along with me! The best is yet to be ..." ■

The hutch, constructed of solid cherry, is 83 in. high. The lower case is 35 in. high, 48¼ in. wide and 18½ in. deep. The upper case is 48 in. high, 44½ in. wide and 15½ in. deep.

A Movable Beast

Wheeled, yet concealed. Casters hidden behind the bracket base hold the hutch a mere 1/16 inch off the floor.

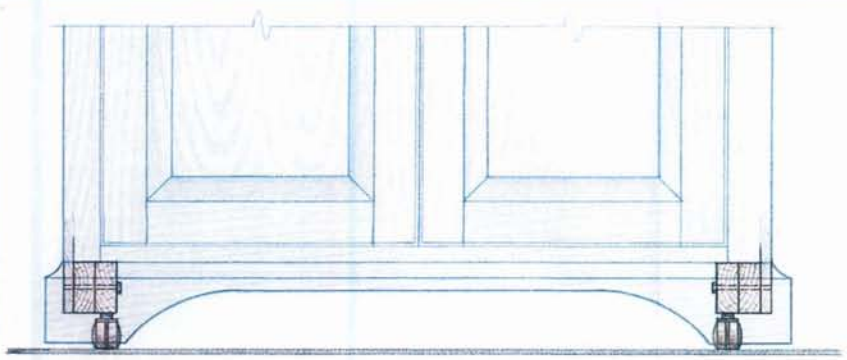
You never know when a child's toy or a telephone message will wind up between your furniture and the wall. A lifetime of struggle with large, heavy furniture, scratched floors, and strained backs convinced me to put the hutch on casters.

I wanted the casters to be invisible, not sticking out under the hutch as on a piece of office furniture. I set the casters high inside the case so they are covered by the bracket feet. Although the hutch appears to rest firmly on its four feet, the feet are actually 1/16 inch off the floor. The weight of the hutch rests on the casters.

The casters are mounted on a frame made of 2x4s that are hidden behind the hutch's bracket feet. I used large screws to attach 2x4s to the hutch base. The 2x4s provide both a solid surface to mount the casters, and a firm contact with the base to support the full weight of the hutch without relying on the bracket feet. Enlarged screw holes in the 2x4s and a single line of glue at the center of its length ensure that seasonal wood movement would not stress the sides of the base.

I used heavy-duty, twin-wheel casters to ensure the floor would not show dents over time. Each caster has a 90-pound load rating.

—William Skidmore



A frame of 2x4s, screwed to the hutch base, supports the twin-wheel casters.

Etched Legs Elevate a Display Shelf

BY GREGORY HAY

Black beauty. Hay chose black woods for his display shelf to give its open structure visual weight. The sandblasting technique used for the relief carving on the front legs left a whitish residue that gives the carving definition.

When my best clients told me they wanted a display case made of solid ebony, I wasn't about to turn down the commission. But it did pose a dilemma. How do you give an open-sided structure—one that is completely black, stands something over six feet tall and two feet square, and supports 200 pounds of glass—the subtlety and presence it needs to hold its own in a living room full of art, musical instruments and high-style furniture? That is what I tried to figure out as I designed this set of shelves.

To start with, I decided that instead of disguising the basically skeletal nature of the piece with curves and sculptural elements, I would make a virtue of it, giving all the parts straight lines, hard edges and geometric overall shapes. To soften the piece a bit I made the side frames of ziricote, whose black-and-tan coloring provided a quiet contrast to the pure black ebony legs and rails.

I thought it would be a shame to use all that ebony without embellishing it in some way. And yet I wanted the shelf's impact to be restrained and not overshadow the pieces displayed upon it. My solution was to etch a low-relief pattern of geometric shapes on the front legs. I hoped it would be something that you notice from a distance but only really appreciate from up close. ■

The shelf is 29 in. square and 74½ in. high. The pattern in the ebony legs was etched rather than carved; Hay cut out a resist template and had the legs sandblasted by a glass artist.

Photos: Jonathan Binzen

Slats without slots. Crisscrossing strips of walnut and elm veneer answer the customer's request for something that recalled Hurwitz's slat-topped tables but was fit for dining.

Fresh Curves for a Kitchen Table

BY MICHAEL HURWITZ

I've found that seemingly attractive commissions sometimes bring with them limitations that prove too restricting. But this project was an example of the ideal commission. The clients, who wanted a kitchen table for daily use, had seen two tables of mine that they liked—a decorative table with a marble mosaic top and a tea table with a slatted top. They liked the size and circular format of the center table, but were afraid that the marble top might be too cold or hard for a kitchen table. And the table's base didn't provide the necessary legroom for dining. They also liked the idea of activating the top surface by building it up of crisscrossing slats as I had done with the tea table, but they were concerned that it was less practical than a solid top would be.

I settled fairly quickly on a veneered pattern that would make a reference to the slatted solutions of previous pieces but would make a solid surface. As I designed the veneer pattern, I had in mind the way a woven tablecloth looks. I made a pattern that was simpler where it would be a backdrop for the place settings and slightly more complex in the center. I thought of it as a piece of fabric whose borders were unraveled, leaving only the woven center still intact.

In the base of the table I was taking cues from natural forms but tried to stylize them to the point where they're not really recognizable as sprouts or limbs, but still retain the feeling of something organic. The stretchers are plainly practical and structural—their hooped design provides knee room while keeping the table's legs from wiggling. But they also do visual work; they reinforce the sense of upward movement within the piece. ■

This elm table with elm and walnut veneer is 42 in. in diameter and 30 in. high. The ash chairs are 17 in. wide, 18 in. deep and 30½ in. high. The table is finished with oil and varnish; the chairs are lacquered, with milk paint on the seats.

Bending botanical forms to human use. The high-hooping stretchers, inspired by plant forms, rise and cross creating footroom underneath (above). When the chairs are pushed in, their front legs, which are turned out 45°, nestle against the stretchers (see bottom photo facing page). Each leg of the table has a mating truss, which forks at the top like a tree branch. The trusses support the tabletop's rim and make a visual connection between the top and base (photos at right).

Photos: Jonathan Binzen

A new style for a new nation. As America declared its independence, Federal furniture became the rage. Bright veneers and inlays, classical decorations, and lighter, linear forms replaced the ornate curved and carved surfaces of the Chippendale and Queen Anne styles.

Federal Furniture Was

An interest in all things classical gave rise

BY JENNIFER A. PERRY

Revolutionary
to a delicate furniture style

At the Smithsonian Institution, in Washington, D.C, you can see the portable desk on which Thomas Jefferson wrote the Declaration of Independence. The desk is simple. Its only decoration is a light string inlay made of satinwood. Jefferson said the desk "is plain, neat, convenient, and ... yet displays itself sufficiently." Symbolic of the country's birth, the desk also represents a new furniture style which, like Jefferson's principles, became known for its elegant simplicity and efficiency.

The desk is thought to be one of the first pieces of American Federal furniture—the style that became fashionable during the latter years of the American Revolution and remained popular through the first quarter of the 19th century.

The sleek lines, carefully chosen woods, and smooth surfaces of American Federal furniture link it aesthetically with much of today's studio furniture. And like many of today's furniture makers, Federal cabinetmakers prided themselves on their craftsmanship. But the reasons behind the creation and popularity of Federal furniture were complex and unique. Its designs and motifs proclaimed loudly and clearly that America was a new and independent nation with aspirations no less lofty than those of the ancient Greeks and Romans. Cabinetmakers made a distinctively American statement: we are one people who will strive to do things righteously, but we will do things our way.

CUTTING-EDGE CLASSICAL

Two hundred years can add a lot of patina to a piece of furniture, and it can also add to our sense of its formality, its seriousness. But late in the 18th century, when the Federal style came into its own, it was, primarily, the latest thing in home decorating. We like to think of the men who founded this country as being beyond reproach, but they were not beyond the whims of fashion. After the discovery of the ruins of Pompeii in the middle of the 18th century, all things classical were in vogue. The new nation of America grabbed onto classicism like a teenager going after a latest fad. Paintings from the time of the Revolution often depicted George Washington in a toga, and he was frequently described as a mythical figure.

Before the days of home decorating magazines, American cabinetmakers looked to England for inspiration. Late in the 18th century, two English design books that promoted neoclassical style were published. George Hepplewhite's *Cabinet-Maker and Upholsterer's Guide* and Thomas Sheraton's *The Cabinet-Maker and Upholsterer's Drawing Book* concentrated on the use of classical form and ornament in furniture design.

Classical figures—gods and goddesses—and classical accouterments like swags, urns, medallions and columns

Icons from Greece and Rome. The eagle, a Roman symbol of power, became emblematic for America, and adorned Federal furniture in inlays, carvings, even drawer pulls (above). The 13 stars shown represent the original colonies. Below, a goddess in a chariot adorns a mirror panel. A decorative column is inlaid on a desk front (bottom left). A chair splat is carved with an urn (bottom right).

Photos: Jefferson Kolle, except where noted; photo facing page taken at Strawbery Banke Museum, Portsmouth, N.H.; photos this page taken at David Dunton Antiques, Woodbury, Conn.

Spade feet, stretcherless legs. Federal chairs often did without leg stretchers for the sake of a delicate appearance. The spade feet and simple square back lend lightness to the chair.

were all part of the neoclassical design vocabulary, and Americans made them their own. Bellflowers were inlaid onto drawers, swags were tacked onto chair rails; and urns were carved onto chair backs.

Americans enhanced their borrowed repertoire of classical designs with a significant addition of their own: the eagle. Perhaps the most popular image during the Federal era, the eagle was a symbol of Roman power and had been made America's official mascot in 1782. It became the identifying American image, and it was seen everywhere—from finials to drawer pulls.

LINE, INLAY AND COLOR

There was more to the Federal style than adding an inlaid eagle or a carved urn here and there. In some senses, the Federal style was a reaction to the styles that came before it. If it can be said that the Queen Anne and Chippendale styles were based on curves, Federal was based on line.

Almost without exception, Federal furniture has a delicate, linear, almost wispy appearance. Chair and table legs are thin and straight, and many chairs have no stretchers between their legs. The furniture often seems to be standing on tiptoes. Upholstery is taut and flat, and chair seats are usually rectilinear.

Cabriole legs, a stylistic given during the Queen Anne and Chippendale eras, gave way to round or square tapered legs. The Queen Anne slipper foot and the Chippendale ball-and-claw foot were left behind in favor of simpler square or turned feet.

This is not to say that Federal furniture is all straight lines and rectilinear shapes. Curves abound on Federal furniture, but they are, for the most part, linear rather than compound: Imagine a linear curve as a cylinder, curving in only one direction, and a compound curve as a sphere, which curves in several directions.

The Federal emphasis on line was not limited to form and mass; it was also manifested in decoration, specifically inlay. Federal case pieces look as if they are composed of geometric puzzle pieces, with ovals, rectangles and circles fit together.

Whereas the Queen Anne and Chip-

Beyond basic brown wood furniture. Geometric shapes in light-colored woods, line inlays, and formal, painted furniture, like this New York chair with a decorative eagle (bottom center), are hallmarks of Federal furniture.

Top left and bottom left photos this page and top right and bottom left photos facing page: Courtesy of David Dunton Antiques, Woodbury, Conn.

pendale styles were known for carved ornamentation, Federal furniture focused on smooth surface decoration. Carving certainly appeared on Federal pieces, especially on chair splats and legs, but it was carving as decoration rather than the deep, sculptural carving typical of Chippendale furniture.

Federal cabinetmakers favored mahogany as a primary wood, but they also began using a variety of bright, light-colored woods for highlights and veneers, woods like maple, satinwood, boxwood, holly, rosewood and birch.

Inlaid pieces often had subtle shading, achieved by putting the pieces into hot sand which burned or charred the wood. The variety of light and dark color combinations became a hallmark of Federal furniture. Even after 200 years, the bright-colored woods, varnished or shellacked, almost shimmer as light reflects off their polished surfaces.

NEW FURNITURE FORMS

Years ago, before VCRs, before the term couch potato was invented, no one had entertainment centers in their homes. Lifestyle changes brought about new furniture forms. Similarly, in the Federal period, new furniture forms came about in response to changes in Americans' pocketbooks, expectations and lifestyles.

The most significant new form in the Federal period was the sideboard (see photo on p. 48). At the end of the 18th century, rooms in Federal homes became more specialized, so furniture was created to fit rooms' new functions. As Americans began to differentiate between a sitting room and a dining room, sideboards were designed so that meals could be served in the new room set aside for that specific purpose.

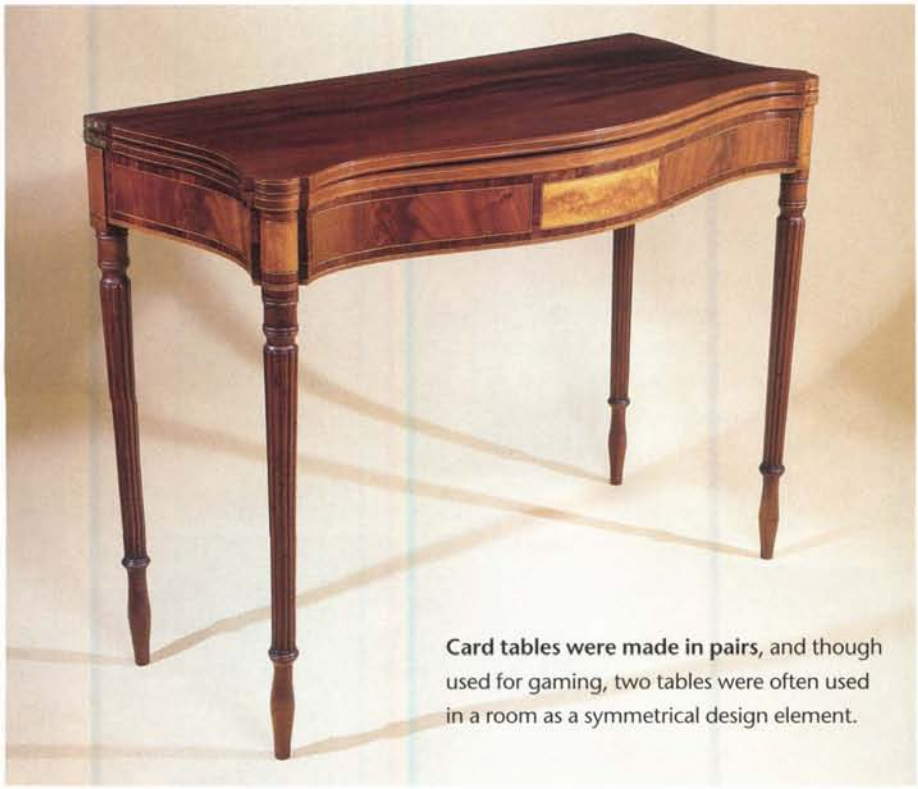
The introduction of tambour and cylinder desks reflected the changing roles of men and women in the Federal period. Sometimes known as ladies' desks, they are thought to have been used more by women than men and may have been created to meet an increased interest in women's learning. These desks were smaller than the large desks and secretaries of the past, indicating they were most likely used

A quantum leap from cabriole legs with ball-and-claw-feet. At left, a lady's desk was a new form during the Federal period. At top right, an arm curves into a turned leg on a sofa. In the middle right photo, simple, straight, bracket feet support a Federal chest. At right, a card table and a candlestand look as if they stand on tiptoes.

Middle right and bottom right photos this page taken at Strawbery Banke Museum, Portsmouth, N.H.

George Washington didn't sit here. Lolling chairs, also known as Martha Washington chairs, had unupholstered arms, a unique design that arose in the Federal period.

Classic lines, classical motifs. The supporting columns and the carved eagle finial on this looking glass are among the defining elements of Federal furniture.



Card tables were made in pairs, and though used for gaming, two tables were often used in a room as a symmetrical design element.

less for business and more for pleasure.

Worktables with a cloth or wooden drawer to hold a woman's needlework were a sign of social status and disposable income. Some worktables included a writing surface inside a top drawer, another sign of women's educational accomplishments.

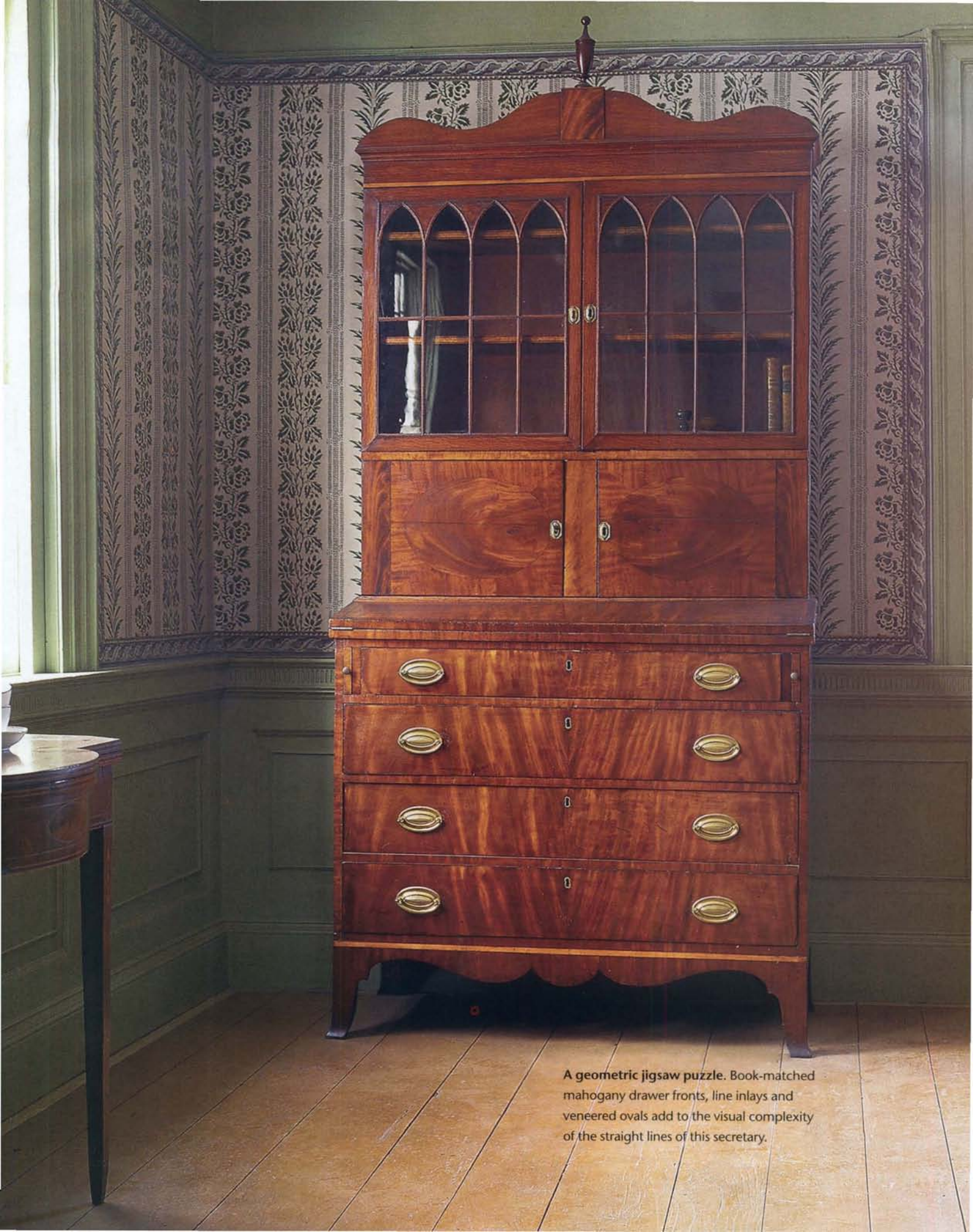
Banjo wall clocks, patented by Simon Willard of Massachusetts in 1802, sold for about two-thirds the price of an average tall case clock and permitted many Americans the luxury of owning a highly desirable decorative object. They featured geometric shapes, eagles, and other patriotic emblems, gold leaf and painting on glass, and are considered a pinnacle of neoclassical design.

Card tables were made before the Federal period, but it was during this time that their manufacture proliferated. Card playing was a popular Federal-era pastime, but more than that, lightweight, portable and often highly embellished card tables were used as decorative elements in Federal households. Often made in pairs, Federal card tables were placed under windows or mirrors to give a room the desired symmetrical appearance.

A variety of new chair styles with classical and patriotic motifs appeared in the Federal period. Most notable is the lolling chair, now usually called a Martha Washington chair. It is a unique American Federal form with a high upholstered back and upholstered seat. Unlike Chippendale wing chairs, their arms are open and unupholstered. The open arms give the chairs a light look, and they suggest a casual posture, perhaps an allusion to a lifestyle that made time for relaxation and leisure.

No furniture is created in a vacuum. Federal furniture drew on motifs from ancient Greece and Rome and used them in a lighter, delicate style that fit the fashionable impulses of a new country. Many of the furniture forms developed during the Federal period are still being made today, and it is hard to deny Federal's stylistic influence on much of today's studio furniture. ■

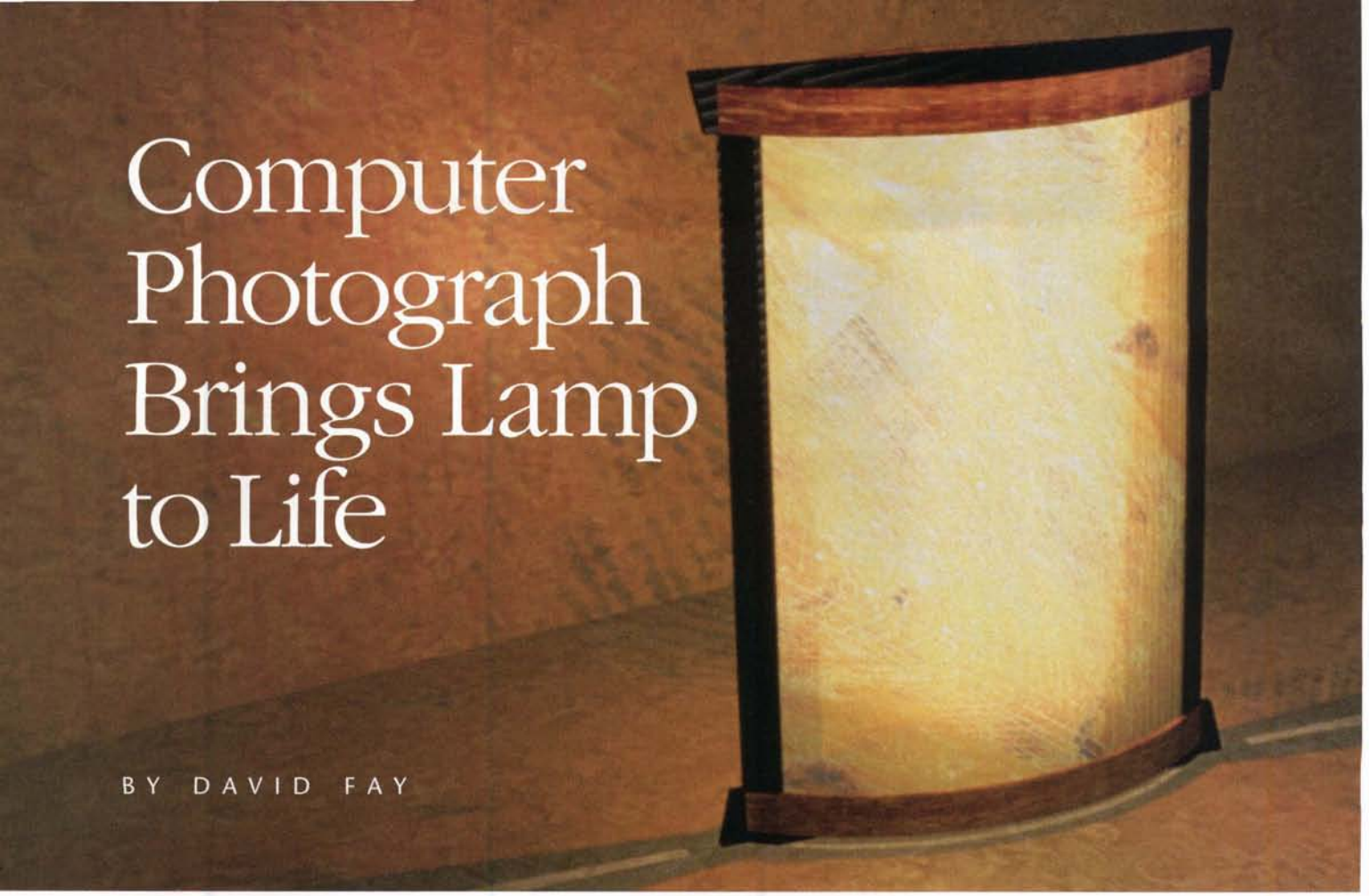
Top left and bottom photos this page: Courtesy of David Dunton Antiques, Woodbury, Conn.; top right photo and photo facing page taken at Strawbery Banke Museum, Portsmouth, N.H.



A geometric jigsaw puzzle. Book-matched mahogany drawer fronts, line inlays and veneered ovals add to the visual complexity of the straight lines of this secretary.

Computer Photograph Brings Lamp to Life

BY DAVID FAY



Photographic image of a fictional lamp. This computer rendering was done before Fay had even built the lamp. The computer files were made into a 35mm slide by a computer service bureau.

Drawing is not my favorite activity. But in custom furniture making, presentation is critical. Luckily, I've found an alternative to showing my rough sketches to potential customers. Instead of laboring over my drawings, I take my concept sketches and a list of dimensions to a computer graphics firm. While I watch, they plug in the information and generate a three-view drawing and then an isometric view. As the piece comes to life on the screen, I can add or change details and the piece can be turned so I can examine it from various perspectives. I end up with impressive drawings that are easily understood by potential clients. The whole process takes about three hours of computer time.

Recently, events led me to push the process one step further. I wanted to enter the California Design '97 show, which required the submission of a photograph. Unfortunately, the lamp that I wanted to submit was not yet made—and there was only one week until the competition deadline! I called the CAD technician at Inertia Studios in San Francisco, where I have my computer renderings done. He said that we could scan the actual materials for the lamp into the computer to create "virtual furniture." This rendering could then be made into a photographic slide by a service bureau.

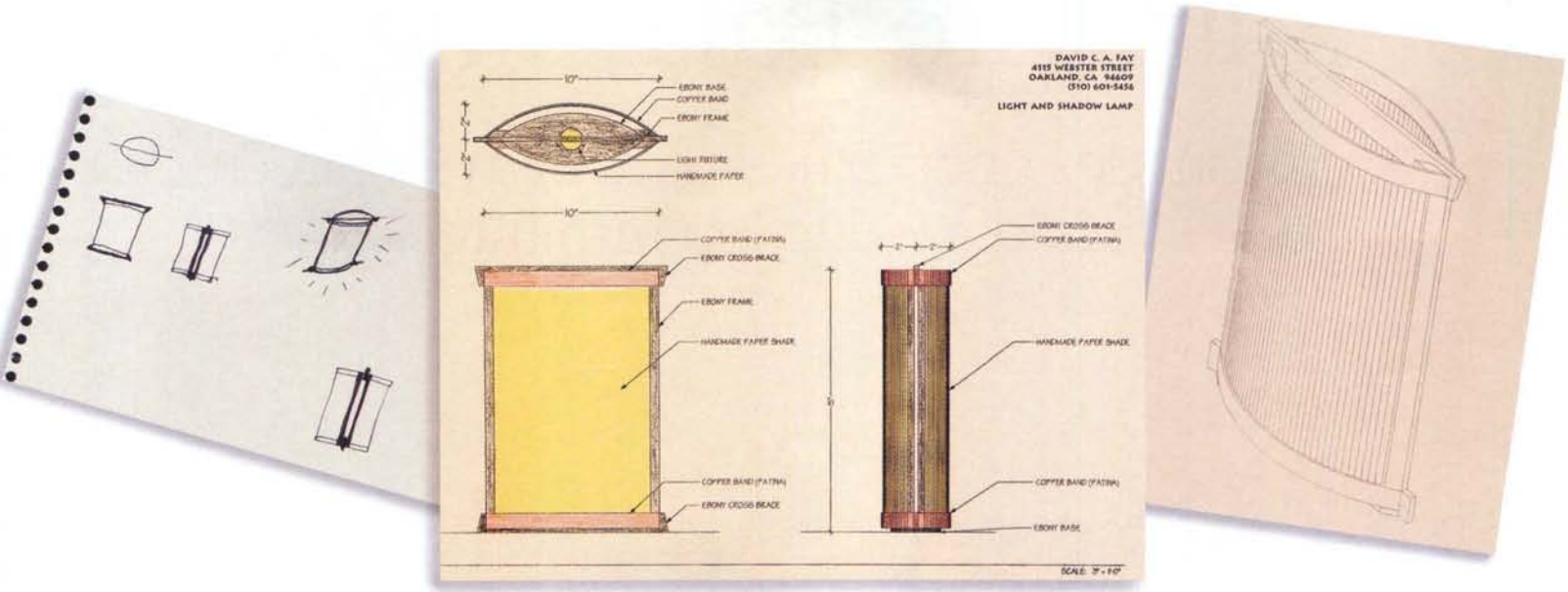
The first step was to construct CAD three-view and isometric renderings of the lamp from my preliminary sketches (see the drawings on facing page). We then scanned in samples of the ebony for the lamp's posts and rails, copper banding for the hoops, and the paper for the shade, handmade by my sister, Leslie Fay. The scanned materials became the palette to fill in the isometric image.

The next step was to use ArchiCAD software to put the lamp's image in a roomlike setting. We decided to place the lamp on a textured marble surface, with a white wall behind it. Then, the

Computer-simulated photo this page and computer renderings facing page: Dan Hruby

DRAWING ON THE RIGHT SIDE OF THE COMPUTER

After starting with idea sketches (left) the author takes rough three-view drawings to a graphic designer, who renders them on a computer (middle). From this springs an isometric presentation drawing (right). The author tints the computer renderings with colored pencil.



Welcome back to the real world. As good as the counterfeit looks, it doesn't have the warm personality of the real thing (right). With a low-wattage bulb and a handmade paper shade, the lamp gives off a glow, not a beacon.

computer was able to simulate a light source inside the lamp to visualize the light and shadows cast on its surroundings (see the computer photo on facing page). This process took an additional four hours.

The resulting image was remarkably realistic—convincing enough to persuade the jury of the show to accept the piece before it had been built. I just hope the real thing delivers on the promise that the computer made. ■

This lamp is 15 in. high, 10 in. wide and 4 in. deep; its shade has thin chips of mica sandwiched between layers of paper made from abaca-root pulp.

Photo this page: Jonathan Binzen; top left drawing: David Fay

William Walker's Furniture-Balancing Act

A custom designer makes a mark in architectural and production furniture

BY JONATHAN BINZEN

A private man goes public. William Walker's design aesthetic, developed through his custom pieces like this cherry end table, has broadened along with his business to embrace architectural and production work.

Bill Walker is like the old-fashioned man of letters who, not content with writing fine novels, tries his hand at essays, poems, plays, light verse and letters to the editor. In Walker's case, though, the literature is furniture. His novels are custom-designed and hand-built tables, chairs and cabinets of a very high order. But Walker's enthusiasm spills over as well into architectural woodworking, cabinet jobs and designing prototypes for production furniture, and he has abundant energy, fascination and flair for all these undertakings. He's drawn to the different challenges they pose—the tight, personal focus of the one-of-a-kind piece with its insatiable appetite for man-hours; the broad strokes and collaborative design process of an architectural commission; and the hard compromises required to make craft and commerce meet in a production piece designed to be built in half a day.

His interests in tools and materials are equally catholic. In his shop on Bainbridge Island, Washington, you see handmade planes and shop-sawn veneer but also steel tabletops he's had sandblasted and cut out by laser. Walker likes exploring, and his field of exploration keeps expanding. He treats all these endeavors as parts of a

Photos: Jonathan Binzen

Kitchen collaboration. Walker designed the rolling table with input from the architect and client, and built the cabinets and built-ins to the architect's design, consulting on the details.

whole, so discoveries he makes and skills he develops in one realm naturally blow across and pollinate projects in the others.

IN PURSUIT OF PURE FORM

Custom work is the heart of Walker's business. It keeps the blood pumping to all the extremities. And in this age of IKEA and art furniture, Walker's custom work eloquently answers the thorniest question you can put to a serious furniture maker: Can you make me something in which beauty and usefulness are smoothly blended and neither one is compromised? He can. His pieces meet the challenge of function head-on, but with clear, curving lines and distinct, integral details that make the straightforward look sensual.

Walker's end table in cherry (photo facing page), like the best of his work, has both a clearly defined form and a smooth visual flow. He wants the table's parts to blend, but still be expressed separately. In place of traditional aprons, which would be tucked under the top, Walker makes these integral with the top, glued up around it like a frame. But he stops short of blending the top and apron completely. By veneering the top and letting the solid aprons show, he makes a subtle but certain distinction between the two.

Walker is fond of playing with "families of curves" as he calls them, and this piece demonstrates the concept. The curves in the length and height of the aprons, the curves in the legs and the

Meals on wheels. He has a background in making fine craft furniture, but Walker excels as well in doing work with a utilitarian spin.

Weaving a dining table into the fabric of the house. The mantel he built for this house provided Walker with the spark for the design of this table: "a big curving slab held up mysteriously."

curve of the stretchers are all different, but related; the trick is to find curves that are all notes in a chord.

All his furniture, Walker says, is "really about the relationship between the parts," and getting them right can be frustrating. He'll be close to the harmony he's seeking and then "I'll change one thing and it'll have a ripple effect." As someone with strong hand skills who loves the details and the craft of furniture making, Walker has to fight to keep his eye on the overall form of a piece and to keep from getting lost in those pleasing details.

On the path to finding the right balance, he says, "drawing is only a first step." For him, "Mocking up is where the meat is." But it isn't mock-ups alone that give pieces like this table their serene feeling of resolution. Walker works in loose series. Related ideas surface again and again over the years and you can see them becoming more nearly resolved. Legs and stretchers similar to the ones on this end table appear on many other pieces Walker has made over the years—dining tables, desks, coffee tables, breakfast tables—each time restated to suit the specific piece. His approach is one of refinement rather than constant innovation.

COURTING COMPROMISE AND COLLABORATION

Bolts and casters aren't on the curriculum at the College of the Redwoods. They may not be explicitly banned from the premises of the cloister-like school on the California coast where Walker spent two years in the early 1980s soaking up the furniture-making method of James Krenov, but it's unlikely you'll find many rattling around in the hardware drawers there.

You can, however, find them on some of Walker's work. A recent piece like his rolling kitchen table (photos previous page and top left) was made to fit the demands of its site, the requests of a client and the architect's overall vision. Its bolts and casters represent Walker's open approach to furniture making,

and his acceptance of two other commodities looked upon skeptically at his old school: compromise and collaboration. In this table and elsewhere, Walker demonstrates that fine work can be done within tight restrictions.

Walker's wife, Julie Kriegh, is an architect with the Seattle firm Weinstein Copeland Architects, and he's long done millwork and architectural cabinetwork for her firm and others. Early on, the primary attraction of such jobs may have been the cash flow, but Walker discovered they were valuable for other reasons. "I like physically hard work," he says, and they provided plenty of that. He also found the work afforded a psychological release. "A real serious one-of-a-kind piece takes a lot of emotional energy," he says. "It's nice to do something quicker afterward to get the cobwebs out."

The rolling table is a good example of the sort of project Walker means when he talks about the pleasures of collaboration and compromise. It was designed for a new house on which Julie served as project architect and for which Bill made all the built-ins and cabinetry. Working within a very tight set of parameters, Walker produced a jaunty, strong, wholly pleasing table that answers all the demands that were imposed on it. Walker simply took all the requests and directives and gave them a little spin. "That table was totally fun," he says, and it shows.

The requirements he was handed included the overall idea: an informal eating table to look like an island extension of the kitchen cabinets; the material: eastern maple, to match the rest of the kitchen; the shape of the top: square at one end to meet the cab-

It looked simple on the blueprints. Walker built this decorative wall panel from plans by Weinstein Copeland Architects. The curved unit, veneered in Honduras mahogany, was made in sections and mounted on curving French cleats. Installation alone took two weeks.

No sugar on this coffee table. Walker aims for clarity of form instead of eye-catching adornment: "If I get the form right, it shouldn't need a lot of sugar-coating."

inets, rounded at the other to let traffic flow more easily around it; and the casters: so it could be rolled out onto the lake-view deck for meals in good weather. Quite a list. But Walker took even more input. He noticed that the client had already purchased chairs for the table from Donghia, with bent plywood for seats and bent steel rod for legs. He liked them, and followed their *lead, incorporating* black steel rod in his table's stretcher system.

Walker says he didn't lose a lot of sleep over that table: "I meant it to be a friendly piece of furniture that relates to people and the house without needing to be anything more." That's plenty.

FURNITURE BY THE BATCH

The third dimension in Walker's furniture universe is designing for production. Five years ago, he was asked to design a group of pieces to be made in large numbers by a skilled production shop in Rhode Island. The enterprise, P&E Editions, organized by Warren and Bebe Johnson from their Pritam & Eames Gallery in East Hampton, New York (the same gallery that sells Walker's custom furniture), brought together work designed by Hank Gilpin and Jere Osgood as well as by Walker. It remains to be seen whether the project will flourish, but it has spawned some superb pieces of furniture. One of the most interesting is Walker's steel-topped side table (see bottom photo facing page).

Designing for *production* brings Walker up against problems quite different from those he's encountered in doing custom furniture and architectural work.

Working backward from the retail price. It's a concept that most manufacturers are familiar with, but it doesn't ring a bell for many craft furniture makers, at least not one they're eager to answer. Yet it is the essence of designing for production, and Walker has relished the challenge it poses to his handcraft mentality.

What can you make in four hours of production time that is worth keeping a lifetime? That was the question Walker tried to answer in the design for his steel-topped table. "It's much easier to make a nice piece if you take away the pressure of time," he says.

The crux of the challenge is to design a piece of furniture that has the same integrity that custom work has. And yet one that is made, as he says, from "a kit of parts. You stack them up, grab pieces and assemble them. Discrete elements that have to go together easily." Walker points to the Finnish designer Alvar Aalto and the Danish designer Hans Wegner as masters of this type of furniture design. "With Wegner and Aalto, the design of the production process is equally beautiful to the design of the pieces."

The key to the beauty of their pieces, he says, is "the clarity of their work. They both boiled things down to their essential parts." He commends the austerity of their furniture and says he strives for the same quality. "I tend

to be austere," he says, "but not entirely ascetic. I accept that furniture is for touching."

FRIENDSHIP IS THE RESIDUE OF DESIGN

When asked which way he'd like to take his business in the next 10 years, Walker says his strongest interest is still in one-of-a-kind furniture, but he's not ready to lock himself into just that one approach to the craft. "There's such a high to one-of-a-kind, but it also can be lonely," he says. "I need the mix."

"When I left the Krenov school I thought I was *full* enough to go to some Sleepy Hollow and just make things—but I now know I wouldn't make it if I was cut off from the relationships that are such a part of what I do. For me, an integral part of my whole energy for making furniture is people—specific people. Getting to know people and seeing what they want and trying to make them happy—I don't think there's anything wrong with that." ■

Jonathan Binzen is an associate editor at Home Furniture.

Broad-minded maker. Walker's interests range from one-of-a-kind furniture and handmade planes to production work like the table he's assembling above, its steel top cut out by computer-controlled lasers.

Finesse from a factory. Walker's steel and maple table, whose parts are made entirely by machine, goes from raw materials to UPS box in a day.

Triangle Cutouts Enhance Vast, Flat Surfaces

BY JOSÉ REGUEIRO

Massive delicacy. The visual impact of an otherwise austere sideboard is lessened and complemented by simple details in the doors, a thin, tapered top, and contrasting woods.

Concrete, stone, glass, polyester, steel—I've designed furniture made of all these materials, but I started out, twenty years ago, by making furniture out of solid wood. The words used to describe wood aren't usually shared with these other materials. How often have you heard someone talk about the warm beauty of polyester? For me, the attraction of some of the nontraditional furniture materials is in their mass and texture.

When I designed this sideboard, I wanted to combine a stark, planar form, reminiscent of some of my work in concrete and stone, with—I hate to say it for fear of sounding trite—the beauty of solid wood. But more than that, I wanted to push the traditions of wood furniture and play with people's preconceptions of what it should look like. Most people expect delicacy and refinement in wood furniture, not unadorned hard edges and vast, flat surfaces. But, in this sideboard, I wanted to combine a bold, stark form with some simple and elegant details.

Stark, massive, and textural. These qualities also appear in the author's furniture made from nontraditional materials like concrete and stone.

In the back of my mind, I imagined that the sideboard's case should be made of wide, unembellished boards, mitered at the corners to give the piece a massive presence. The details to enhance the sideboard would come from the doors, and they would evolve later in the process.

I designed and built the carcase of the sideboard before I knew what I was going to do with the top and with the doors. Although building part of a

Photos: Dirk Bakker

piece of furniture before the rest is even designed might seem like an arbitrary and possibly naive way to go, it often works well for me to first build the basic shape and then finish the embellishments after I get a feel for the full-size form. I call the process freestyle designing.

I'd made a sketch of the sideboard using my favorite drawing tools: a Bic ballpoint and some colored markers (see drawing below right). I drew the basic shape of the case, getting the proportions right for the stiles, rails and sides. In this first sketch, I drew louvered doors because I knew I wanted air to be able to flow freely in and out of the case to take advantage of the wonderful aroma of the cedar of Lebanon. Although the effect might be minimal, I thought that a ventilated case would help balance the temperature and humidity on both sides of the wide planks that made up the sides and bottom of the piece (see the sidebar on the following page for more on wood movement).

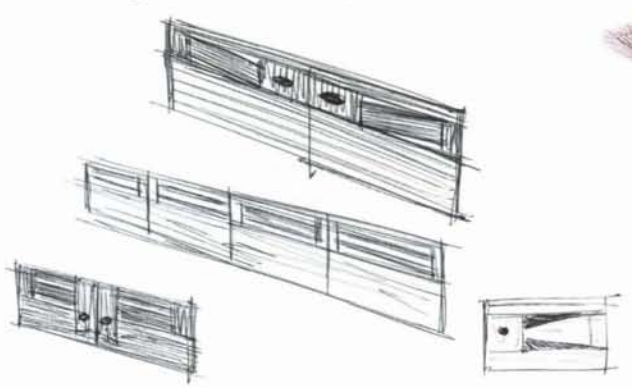
The louvered doors in my original sketch weren't quite right; they detracted from the large surfaces of the other sides. The small pieces of wood that would have made up the louvers

Duplicating an angle. The angle of the triangular cutouts in the frame-and-panel doors is the same as the bevel at each end of the top.

A bank of doors, hinged top and bottom to the rails, requires no stiles between the doors, and adds to the clean look of the piece.

DESIGN, BUILD, THEN DESIGN SOME MORE

The author designed and built the carcase of his sideboard before he had decided on the design for the doors. Louvers weren't right, but he knew he wanted doors that would ventilate the case. After numerous sketches he decided on doors with triangular cutouts in the panels.



Drawings this page: José Regueiro

looked out of scale and out of place on a sideboard that was otherwise made of large pieces of flat wood.

After several sketches of different door patterns (see drawings on previous page), I came up with a design for frame-and-panel doors with triangular slots cut from each panel. I drew the triangle-cutout doors full-size on a piece of plywood, remarkably similar in color to the cedar, cut them out and held them in place on the case. I could see that the cutouts not only allowed for air flow, but they also provided a striking visual counterpoint to the case.

Flat panels keep it simple. Rather than a raised field for the panels on the back of the sideboard, the author used flat panels to complement the other flat surfaces.

After the door design was worked out, the shape of the top followed naturally. Like the doors, the edges of the top are flush with the front and the back of the case. The bevels at each end of the top follow the same angle as the cut-out triangles and add a buoyancy to the piece.

The triangle-cutout door panels and the simple bevel of the top add a lightness to the sideboard that otherwise might appear as only a long, low box, interesting in form, but lacking in elegance. ■

The carcase of the sideboard is English brown chestnut, and the doors are made of cedar of Lebanon. The blue, cast-stoneware knobs are from a line of hardware designed and manufactured by the author.

Keep the Top Flat and Allow for Wood Movement

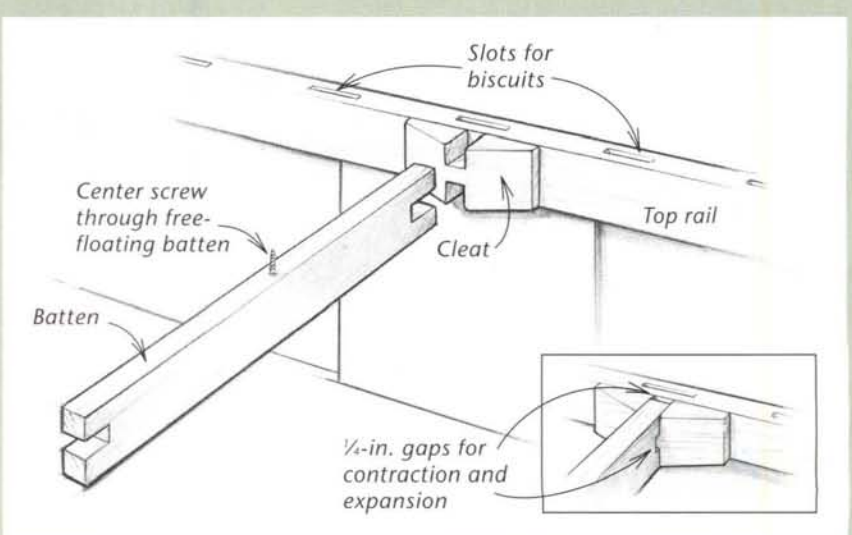
The top on my sideboard is made from one large 17-inch wide plank. When you work with wood this wide, there's always the risk of it cupping, and it can check if it is not allowed to move as temperature and humidity change throughout the seasons.

The edges of my sideboard's top are attached to the case with biscuits. The biscuits hold the perimeter of the top in place and keep it flush with the front and back of the case. The top and sides will move equally because the wood grain runs in the same direction. The case can move in and out as the wood wants with only slight, unnoticeable movement.

I attached three floating battens to the underside of the top, spaced evenly along the top's length. Notches in each end of the battens are held captive in cleats attached to the front and back rails of the case. A single screw holds the batten to the top and helps prevent the top from cupping. Unlike gluing the top to the battens, or attaching it in more than one location, a single screw will allow the top to expand and contract across its width.

There is a ¼-inch gap between each end of the notched batten and its corresponding cleat. The gap allows for expansion and contraction across the width of the top. As an added benefit, the battens and cleats will give extra support to the top should something heavy be set on the piece.

—José Regueiro



Drawings this page: Bob LaPointe

Starting from the Simplest Chair

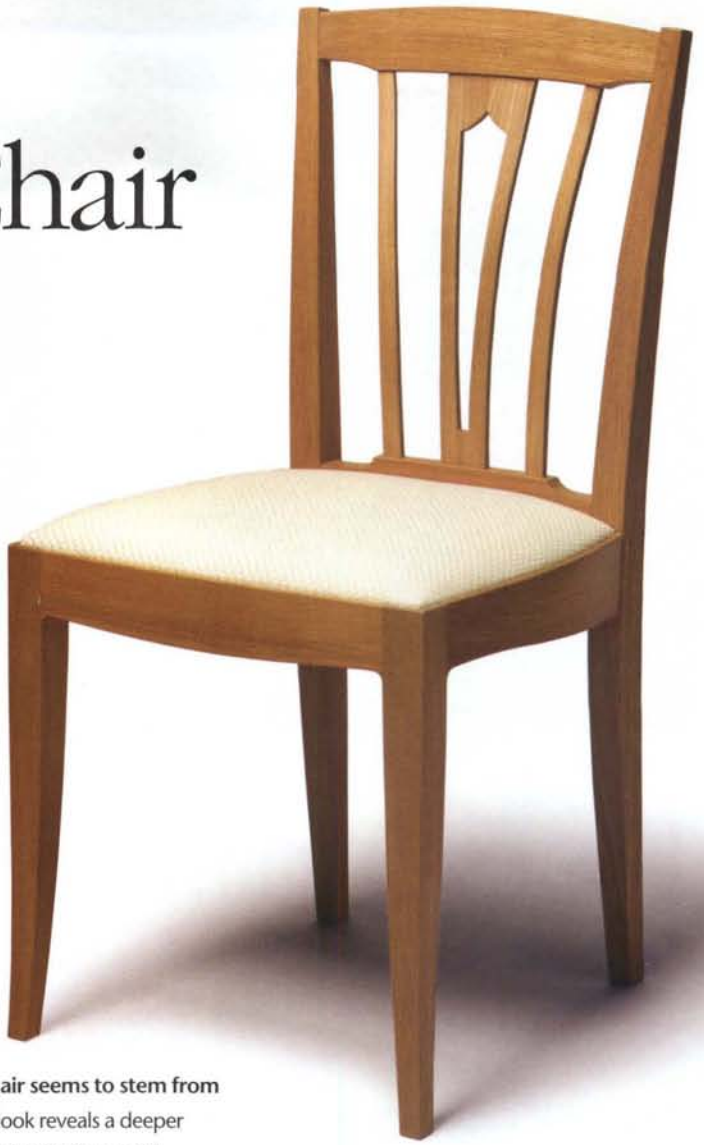
BY WILLIAM McARTHUR

This fairly simple side chair started out life as an even simpler one. As I began designing it, I had little idea what I wanted it to look like, so as a starting point I made a full-scale drawing of a generic side chair devoid of detail. I used basic data about chair comfort to establish the principal dimensions of my generic chair—seat height, width, depth and the angle of the back to the seat. Then I set about adding details to come up with a design that pleased me.

One of the key areas to work out was the back. At first I thought I'd have four spindles between the back posts. That looked OK in my first drawings. But then I made a plywood mock-up of the chair. The mock-up was strong enough to sit in and revealed several problems in comfort that I adjusted for. It also revealed that with four spindles the back looked like the door to a prison cell. I did some new spindle sketches and mocked up a number of them, eventually settling on this version. With its wide, pierced center splat it is a comfortable cross between three spindles and four.

I knew from the start I wanted back posts that splayed outward at the top. This was partly for aesthetic reasons, but it also just looks more comfortable to me. Maybe that is because it seems more in line with what the human body does: it widens at the shoulders. ■

This chair is 17 in. wide, 17 in. deep and 36½ in. high. It is made of English elm with a seat of woven cotton, and is finished with shellac.



The strength of this chair seems to stem from straight lines. Another look reveals a deeper strength: every surface is modestly curved.

SMALL CURVE ELEVATES A STANDARD LEG JOINT

The mitered curve flowing from seat rail to front leg is borrowed from the English furniture designer Edward Barnsley. The 45° miter at the bottom of the leg joint reduces short-grain problems and makes a stronger visual marriage of the two parts.

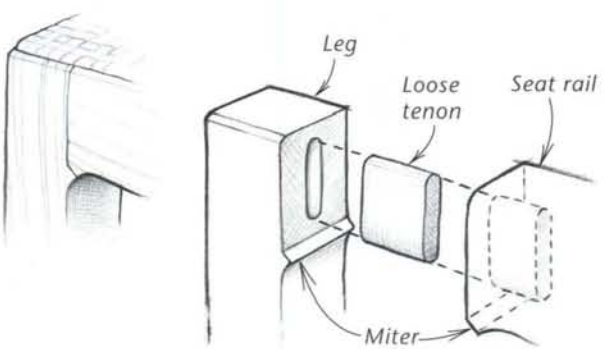


Photo: Seth Janofsky; drawings: Bob LaPointe

Fine Furniture 300 Years in the Making

Ever since colonial cabinetmakers planted the seed, furniture making has flourished in Philadelphia

BY MARK GALLINI

Kevin Arnold's chisel eases a sliver of mahogany from the crown of an 18th-century secretary he is reproducing. The shop, Kinloch Woodworking, is so quiet at this moment and the unfinished piece standing next to Arnold so stately that you almost forget you are still in the 20th century. Philadelphia, the fifth largest city in America and less than an hour by car, seems much farther away.

Meanwhile, in the city, Michael Hurwitz is making adjustments on a different kind of desk, this one very much of the present. The curly ash piece with marble inlay glistens in its Japanese cashew finish. Its many historic influences are subtle yet synthesized so that the effect is as fresh as the finish.

Kinloch's impeccable reproductions and the decidedly contemporary work of Hurwitz represent the diversity and vibrancy of today's Philadelphia furniture makers, working 300 years after the colonial cabinetmakers planted the seeds of their craft. From the finest examples of 18th-century rococo to the individualistic, studio-built furniture of the 1990s there has been an unbroken tradition of design and craftsmanship and the market to support it.

WITH WEALTH CAME SKILL

It was the growing economic power of Philadelphia in the 1700s that attracted a concentration of skilled European furniture makers. The city grew conspicuously wealthy during the 18th century and the visual restraint of the Quakers yielded to an almost decadent

Photo this page and top photo facing page: Jonathan Binzen

Young hands keep a Philadelphia tradition alive. Furniture makers such as Kendl Monn (left) and Gerald Martin (above) at Irion Company feed a hunger for handmade, one-of-a-kind reproductions of 18th-century classics.

rococo style. This ornate, refined "Philadelphia style" set the standard for families of means eager to broadcast their status in a what was a colonial—and briefly a national—capital.

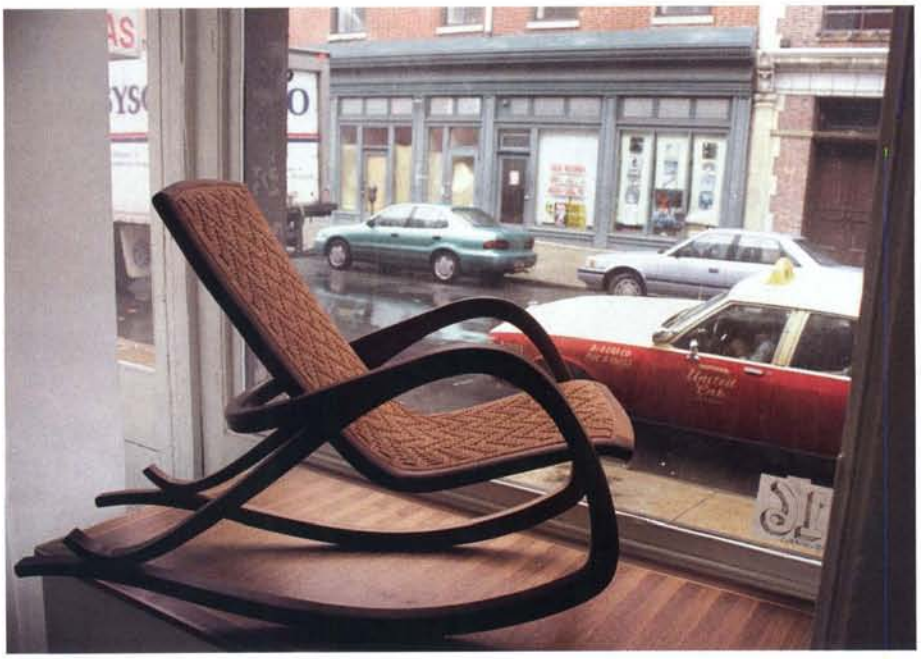
Those 18th-century glory days linger on today in the accumulation of buildings and antiques that survive and, significantly, in the appreciation for fine furniture among the buying public. Long ago the hunger for antiques in this tradition-bound place outstripped the supply of heirlooms, creating a brisk trade in reproductions. The old-world craft that helped settle the region three centuries ago is still very much alive in the shops of young cabinetmakers feeding the demand for high-style, one-of-a-kind reproductions.

"William Penn, he wasn't buying antiques. He was having the stuff made and made right," says Kendl Monn of Irion Company in Christiana, a small town in Lancaster County about an hour from Philadelphia. "Fortunately our clients look at it the same way."

Irion is the largest custom shop in the nation building precise replicas of 18th-century gems, one commission at a time. The company has 15 cabinetmakers—almost all of them are under 40—and a backlog that stretches more than a year. Inside Irion's brick shop that used to house a hardware store, a visitor must weave through a maze of in-progress work: a walnut Philadelphia highboy; a Massachusetts secretary; a half-dozen clocks; some beds and chairs.

Half of Irion's customers come from the region and many are buying their first piece of custom-made furniture (usually a bed). Dealers refer others who cannot find the antique that they want. Occasionally, Monn says, a customer has other needs. "A guy will say, 'I inherited this chair. It's worth a fortune. I want to sell it, but my family will be furious with me if I do. Please make me a copy so they won't know.'"

Down the road from Irion, closer to the city, Kinloch Woodworking sits amid stone houses and gentlemen's farms in the quiet Chester County town of Unionville. Kinloch caters to the same clientele and operates much as an 18th-century shop would have—by building one-of-a-kind pieces for individual clients on a commission basis. "We're the descendants of the cabinetmakers who are building for the descendants of the people who ordered this furniture 250 years ago," says Doug Mooberry, the proprietor of Kinloch. "Our clients don't have to have new,



"Cheap real estate is an important part of the equation," says Michael Hurwitz, who moved to Philadelphia in the 1970s to set up his home and shop in the center of the city.

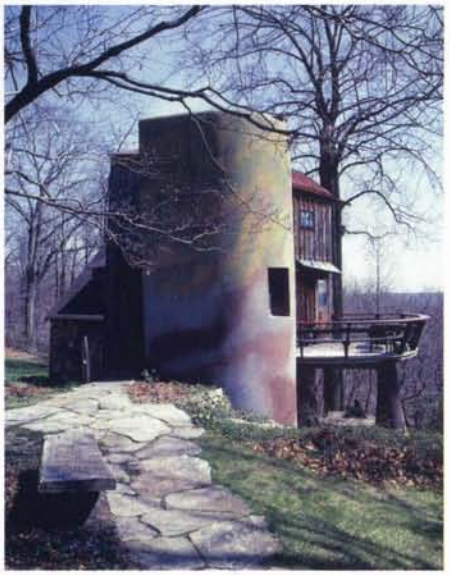
Lower left photo: Suzanne Roman; lower right photo: Mark Gallini

they don't have to have antiques, they just have to have great stuff."

RESEEDING THE CRAFT IN THE 20TH CENTURY

Reproduction furniture is only a part of the Philadelphia story. Leaving Chester County and heading back to the city, a detour through Paoli would take you to a different sort of stone house—the Wharton Esherick studio, a fantasy of stone, wood and tinted stucco. Keep heading northeast, through Philadelphia and up the Delaware River to the former artist colony of New Hope, and you'll find yet another unusual stone house back in the woods—the workshop of George Nakashima. These are the houses of the forefathers of the craft furniture movement of the 1950s and 60s.

Wharton Esherick, born in 1887, was a painter and sculptor by training but it is as a furniture maker—and for the handmade home he built—that he is best remembered. By the time he died in 1970, Esherick's organic, sculptural forms had attracted many to the craft, people who saw an expressive side to furniture making. "For me it wasn't so much the pieces themselves," says Michael Hurwitz. "It was a case where once in a great while someone comes along and reveals a completely different approach to the work." Hurwitz recalls seeing "one piece in particular, a dining room set and the chairs were stretched with a rawhide seat. The proportions are so elegant and the materials are caveman materials. I liked that sensibility."



Wharton Esherick inspired a generation of artisans with his sculptural, imaginative furniture forms. His home and studio in Paoli, Pennsylvania, is now a museum.

George Nakashima, who built a studio in New Hope after World War II, brought another singular approach to his work. Nakashima's contribution was his almost religious insistence on reverence for the material. "A lot of what he did was presentation of the glory of nature," says Hurwitz, "and that was coming from a different place than other furniture makers of the time."

If Esherick and Nakashima, who died in 1990, awoke people to the craft, it was Dan Jackson who helped bring them to Philadelphia and put their hands to it. Jackson trained as a furniture maker in the United States and Scandinavia and helped start the furniture design program at the Philadelphia College of Art, one of the many crafts programs that sprouted in the 1960s. Jackson's reputation drew others. "He charged up a lot of people with the possibilities of the medium," says Ned Cooke, professor of art history at Yale.

A CITY IS CHANGED, BUT A CRAFT CONTINUES

What young furniture makers found in the 1960s and 1970s was a city in decline, losing population and industry—the opposite environment that had greeted colonial cabinetmakers. Bleak as this may have seemed, it was promising terrain for someone looking to set up shop. Philadelphia encompassed a large and appreciative market, and it was affordable. "Cheap real estate is an important part of the equation," says Hurwitz, whose shop and home are in a 19th-century row of warehouses, factories and, lately, residences. "It may have helped a critical mass of furniture makers to develop."

Helping to shape that critical mass was the Richard Kagan Gallery, the nation's first gallery dedicated to studio-built furniture. Kagan's gallery, though

George Nakashima was one of the forefathers of craft furniture. His organic furniture is still manufactured under the direction of his daughter, Mira. The shop and studio (left) are in New Hope, Pennsylvania.

Top photo: Charles Miller; lower left photo: Vincent Laurence

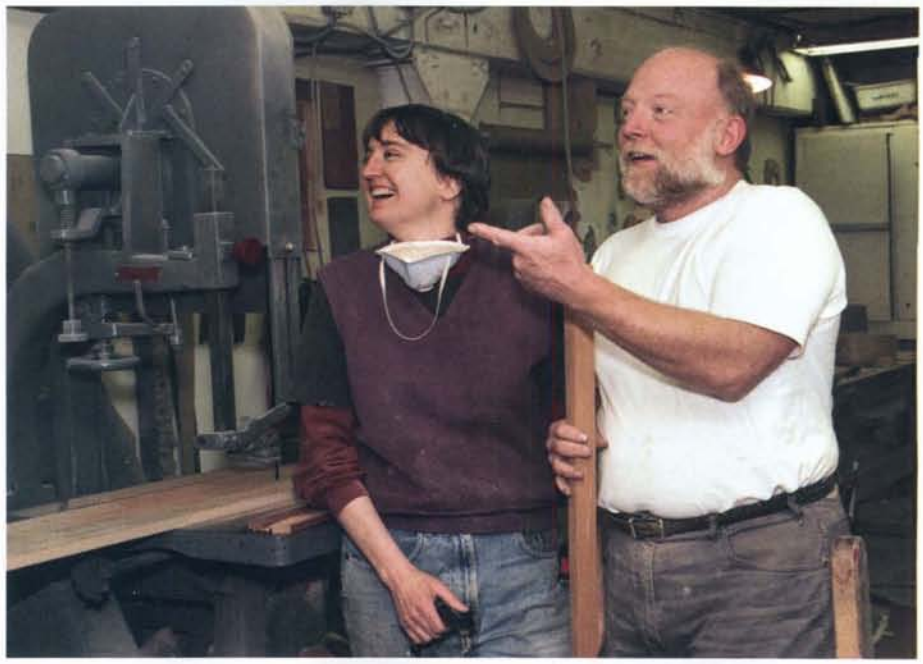
no longer open, introduced the public to Wendell Castle, Sam Maloof and others, now the giants of the field.

The current magnet for contemporary woodworkers is an old brick factory building in Fishtown. In this scrappy, blue-collar neighborhood, there is a cooperative shop in which as many as 16 people toil away on any given day. Alongside them are Bob Ingram and Jack Larimore, who own the shop and have become fixtures in the Philadelphia furniture community.

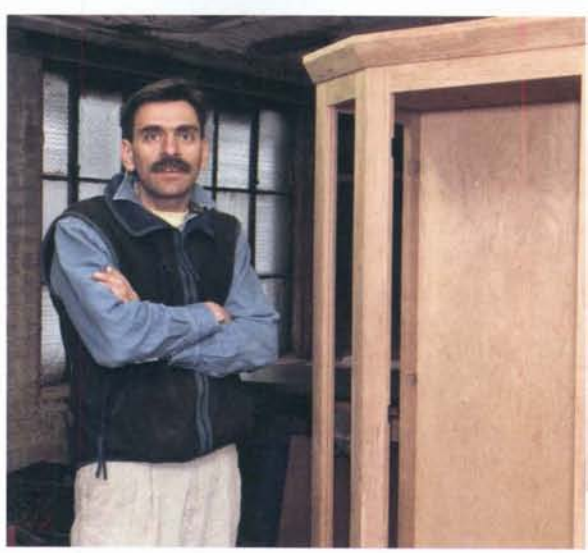
Ingram's playful, limited-edition pieces are far different from Larimore's one-of-a-kind, sculptural objects, but the two men share a mission. "Both Jack and I come from the Midwest," Ingram says. "We've got that sort of pioneering attitude of helping everyone as opposed to just working for individual gain." Dozens of aspiring furniture makers have come through their shop over the past 15 years. "We shared from the beginning an interest in developing the community and the realization that critical mass is important to individual growth," Larimore says.

The fruit of that effort, in many ways, has been the Philadelphia Furniture Show. Organized by Ingram and another furniture maker, Josh Markel, the annual show attracts 10,000 people over three days. "If 10 or 20 years ago someone said such a thing could exist, I would have said they were out of their minds," says the former gallery owner Richard Kagan.

About a third of the show's 200 exhibitors come from the Philadelphia region, a testament to what Ned Cooke calls "the accumulated skill level" of more than 300 years of furniture making. The original seeds planted by colonial cabinetmakers not only took hold in the soil, they thrived in it. ■



A cooperative shop in downtown Philadelphia is a nerve center for the region's artisans. Jack Larimore, one of the owners, (above) and Jane Swanson are among several furniture makers in the shop.



The Philadelphia style, circa 1997. Bob Ingram (above) is one of the founders of the Philadelphia Furniture Show. His settee (left) is one example of the contemporary furniture being made in the city today.

Top and middle photos: Suzanne Roman; bottom photo: Jack Ramsdale

fine furniture timbers

BY JAMES H. FLYNN

Luscious Pink Pear

Pear blossom time. The pure-white flowers of the pear tree usually appear in early May, just ahead of the pinkish-white blossoms produced by its near relative, the apple.

The place is on a hill in southern Rhode Island and we always called it Tomcats. I remember it well because it was a great place to roam among paths that twisted around old hickories and oaks and over abandoned stone walls. In autumn, we knew where the wild pears grew and lost no time in enjoying their deliciousness. I didn't know the scientific name for the tree, or that the species was not native to the New World. Sitting under a pear tree in the warmth of a late fall sun, it didn't really matter.

It was years later before I learned that the descendants of the common pear tree provide not only delectable fruit but also a remarkable wood. I can't recall another species where the reports of the wood's characteristics are so overwhelmingly generous: one furniture maker called pear "a dream wood." A paramount feature of pearwood is its luxurious pinkish color. Creators of marquetry have long used pearwood to depict human flesh. A friend recently acquired a billet of pearwood from Alabama in an extremely brilliant shade of red. As he was turning it on his lathe, the only way he could describe it was "lusciously sensual."

Pearwood's tiny pores and faint rays give it an extremely fine and even texture. It carves and shapes beautifully, and can be planed in either direction with little tearout. The wood accepts a fine finish and polish.

Domestic or import. Cut a local pear tree and you'll probably get narrow boards with wide variations in color (lower board). For clearer wood with a deeper, more even tone, buy steamed European pearwood (top board).

The pear is so important a staple in our fruit diet that thousands of varieties have been developed over the ages. The lineage of the species, known as *Pyrus communis*, can be traced to Europe, western Asia, the Himalayas and China. Generally, the leaves are alternate and deciduous; rather long with a sharp pointed tip and a rounded base.

The cultivated pear tree is usually

Photo: Scott Phillips; drawings: Michael Rothman

severely pruned to keep the fruit at a reachable height. These shorter, squatter trees, with their many branches for bearing fruit, will rarely yield boards that are long, wide and clear. Larger trees, up to 60 feet or more, may be found along roadsides and in abandoned farmlands. These are more likely sources of pearwood for furniture making.

Centuries ago, craftsmen often used only material from their immediate vicinity, so it is not difficult to find examples of old pearwood furniture made in Europe, where pears still thrive to perfection. Today, pearwood can be found at hardwood dealers at prices from $10 to $16 per board foot, though it's difficult to find large quantities of pear with uniform color and grain patterns. Most of the wood sold in the U.S. is from Europe, and is sometimes called Swiss pearwood, even though more of it comes from France or Germany. This wood is often steamed, in a process that introduces moisture into the seasoning vats to homogenize and enhance the depth of the pinkish color.

Back to nature. In areas where pear orchards have been tended for centuries, some trees escape cultivation and become naturalized, reaching heights of 60 feet or more.

Besides furniture making, pearwood is used for measuring instruments like T squares and rulers, turnery, sculpture and musical instruments such as lutes. Somewhere out in a great music hall or in a lonesome cafe, someone may be playing a Russian balalaika I once made with pearwood. I hope that it is still ringing out "Lara's Theme."

James H. Flynn is an Associate Editor of World of Wood, *the journal of the International Wood Collectors Society.*

INDEX TO ADVERTISERS

BY JENNIFER MATLACK

Cracking Glass

"Glass is a necessary evil." At least that's what Jeff Greef, a seasoned woodworker, says. "If it wasn't for the fact that glass is clear, we wouldn't use it at all." Yes, when you want to show off a well-crafted table base, or let light through a cabinet door, glass is necessary. But it doesn't have to be evil. Granted, glass is a fragile material. But knowing a little about it—types and thicknesses, how to get a good cut, how to minimize breakage—can make your dealings with the stuff go, well, as smooth as glass.

The two most common types of glass used for furniture are plate and tempered. Plate glass is regular sheet glass. Although its three common thicknesses are single-strength (1/16-inch), double-strength (1/8-inch) and quarter-inch, it is available in greater thicknesses. Tempered glass is glass that has been strengthened through a process of reheating and quick cooling. This process builds extreme stress into the glass so that when hit, it shatters into small and relatively harmless pieces. Once glass has been tempered, it cannot be recut without breaking. Its special nature requires that it is made to order. Your local glass shop can assist you with both kinds.

The answer to which kind of glass to use can be found in your application. For obvious reasons, tabletop glass needs to have considerable strength. Although both quarter-inch plate (or thicker) and tempered glass can top off a table, tempered provides the most safety. But safety doesn't come cheap. According to Mason Rapaport, a woodworker who has designed and constructed his share of glass-top tables (see "Curved Legs for a Coffee Table," *HF* #6, Spring 1996), tempered glass is not the best buy. Priced at around $6.25 a square foot, tempered glass costs approximately $2 a square foot more than quarter-inch plate. Rapaport finds 3/4-inch plate to be a suitable alternative. If you have small children around the house, however, the extra expense of tempered glass may seem like a bargain in exchange for its added security.

If your design calls for cabinet doors, turn exclusively to plate glass. Jeff Greef, author of *Display Cabinets You Can Customize* (Betterway, 1995), recommends "double-strength plate where greater strength is needed. The larger the piece of glass, the more strength needed." He adds that he "would not use single-strength larger than two feet square." Keep in mind that the thicker the glass, the higher the price. Expect to pay about $2 a square foot for single-strength plate and $2.50 for double-strength. And remember that thicker glass means heavier glass. The weight of a glass panel on a door's frame and hinges is crucial. If the glass is too heavy, doors will suffer and eventually sag.

Because shelves have to hold weight, they require thicker glass. For about $4.25 a square foot, quarter-inch plate will provide the strength needed and peace of mind.

After you decide on which kind of

Light and eerie. Glass cabinet doors and "levitating" 1/2-inch plate shelves help to convey a feeling of airy lightness in this contemporary china cabinet by Michael Gloor.

Photos this page: Ken Ambrose; photo on p. 76: Jennifer Matlack

glass and thickness to use, a good cut comes next. If your glass is a simple geometric shape, call your local glass shop with its measurements. "Always order the glass just smaller than the hole it will fit in," advises Greef, "because you can't trim the edges of glass with a block plane." If your glass is oddly shaped, make a template out of a sturdy material such as thin plywood, Masonite or particleboard and take it to the glass shop.

If you don't specify what kind of edge you want, you'll most likely get a flat polished edge. While there's usually no extra charge for the flat edge, a different edge treatment such as prism, beveled, pencil or bullnose beveled will cost more (see *HF* #6, p. 109). And any kind of edge work on tempered glass will increase your cost. Prices vary depending on the type and thickness of glass used as well as the kind of edge.

When you work with glass, remembering the obvious means a lot: "Glass," says Greef, "differs from wood in how forgiving it is. It isn't. Strike it hard enough and it breaks." If you need to transport a piece of furniture with glass, take the glass out before you move it. Construct a box out of plywood and place the glass inside padded with blankets on each of its sides. If you need to ship glass, Greef recommends writing "CAREFUL — GLASS INSIDE" on the outside in hopes that handlers will take care. It's also wise to insure the shipment.

Jennifer Matlack is the editorial assistant at Home Furniture.

Taking the edge off. An upright sander in a glass shop can round the edges of glass or shave away a sixteenth of an inch.

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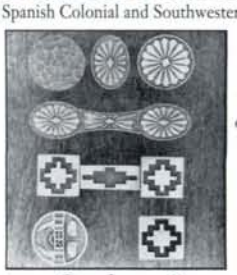

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about the authors

Home Furniture *prints the addresses and telephone numbers of the authors featured in each issue, unless the author requests that they be omitted.*

JERE OSGOOD
(right) has been a furniture designer and craftsman since 1957, and although he has acquired a great deal of technical skill, it is as a designer that he is best known. His work has been purchased by public collections including the Museum of Fine Arts in Boston and he was recently named a Fellow by the American Craft Council. Osgood grew up on Staten Island, New York, and studied architecture at the University of Illinois. He studied furniture making at the Rochester Institute of Technology and in Denmark, and he directed the Program in Artisanry at Boston University. He now teaches short courses around the country, in addition to making furniture in his studio (626 Abbot Hill Rd., Wilton, NH 03086). *"What Makes a Seat Stand Up to Abuse?"* on p. 36.

TIMOTHY CLARK
splits his time making furniture, building boats and teaching woodworking to adults and children. Students who take classes in his one-man shop learn to build everything from Windsor chairs and ultralight canoes to simple pine benches. Clark has designed several contemporary Windsor chairs and rockers, as well as the Cod Rib 12, a 22-pound, one-person canoe, available in kits (The Wood School, 53 Sears Lane, Burlington, VT 05401; 802-864-4454). *"A Cradle that Swings High and Low"* on p. 30.

DAVID FAY
began his education in handmade things on a trip through Asia, where he became fascinated with wooden architecture. He noticed that in most American buildings, "all the craft was covered up, but in Asian architecture the way a building looks is often a clear description of the way it was built." He came back home and built conventional houses and then timber-frame structures before going into business as a custom furniture maker (4115 Webster St., Oakland, CA 94609; 510-601-5456). *"Computer Photograph Brings Lamp to Life"* on p. 54.

HENRY FOX
builds contemporary furniture inspired by the architecture and landscape of coastal New England. Fox discovered furniture after coaching crew teams and building rowing shells, which he calls "floating furniture 60 feet long." For the last 12 years he has been making furniture in Newburyport on the North Shore of Boston (Fox Furniture Studio, 39 Liberty St., Newburyport, MA 01950; 508-462-7726). *"Bold Color and Geometry Expand a Table's Horizons"* on p. 28.

MARK GALLINI
is a freelance writer and graphic designer who lives and works in Philadelphia. A contributor to WHYY, Philadelphia's public radio station, Gallini also has experience in the building trades. He has worked as a cabinetmaker and carpenter, building furniture and doing new construction and restoration, including the reconstruction of his home and studio in Center City. Originally from Massachusetts, Gallini loves Philadelphia "as only people who adopted it do." *"Fine Furniture 300 Years in the Making"* on p. 66.

GREGORY HAY
began his woodworking career in 1982 as an apprentice to a carpenter whose motto was "perfection is not enough!" He spent three years building houses, restaurant interiors, cabinets, doors and fixtures before he had had enough, and then he traded apprenticeships, begging his way into the shop of Dennis Young, a custom furniture maker who had studied in Japan. After 20 months of rigorous skill-building while producing furniture under Young, he opened his own shop, where he makes period and contemporary custom furniture (1814 Skillman Lane, Petaluma, CA 94952; 707-763-4666). *"Etched Legs Elevate a Display Shelf"* on p. 45.

MICHAEL HURWITZ
has been making furniture since the mid-1970s, when he attended the Program in Artisanry at Boston University. He has taught furniture design but currently concentrates on making custom furniture himself. This year he is living in Japan studying lacquer work and traveling throughout Asia. *"Fresh Curves for a Kitchen Table"* on p. 46.

RICHARD JUDD
always thought that his college degree in architecture was a compromise between wanting to be an artist and wanting to make a living. Eventually the desire to work with his hands took him from the drawing board to furniture making. In 1984, he started Richard Judd Furniture, Ltd. (6896 Paoli Rd., Paoli, WI 53508; 608-845-9722). *"Lightening the Look of an Entertainment Center"* on p. 33.

WILLIAM McARTHUR
studied geology at the University of Arizona and worked for seven years with the U.S. Geological Survey in Palo Alto, California. A job in a furniture factory during college was his first taste of woodworking, which has since become his profession. He recently spent two years studying under James Krenov (Four Sisters Woodworking, 400 N. Harrison St., Fort Bragg, CA 95437; 707-964-4141). *"Starting from the Simplest Chair"* on p. 65.

DARRELL PEART
remembers watching his great-grandfather, a carpenter, build an addition to his cabin and thinking "I'd like to do that—build things." He's been building and designing custom furniture since the early 70s, working in a succession of shops in Seattle. He now works full-time building conference tables for a large commercial firm, as well as part-time in his own shop (625 Western Ave., Seattle, WA 98104; 206-935-2874; Web site: http://www.webcom.com/peart/). *"Letting the Room Determine the Design"* on p. 22.

JENNIFER A. PERRY
is a graduate of the Winterthur Museum Master of Arts program in Early American Culture. She is the curator of education at the Florence Griswold Museum in Old Lyme, Connecticut and an avid fan of the New York Yankees (P.O. Box 1051, Old Lyme, CT 06371; 860-434-5542). *"Federal Furniture Was Revolutionary"* on p. 22.

JOSÉ REGUEIRO
opened José Regueiro Studios in 1981, and has exhibited his work in museums and galleries in this country and abroad. He recently began making and marketing a line of decorative drawer pulls (1470 Ashton Dr., Rochester Hills, MI 48309-2249; 810-650-2976). *"Triangle Cutouts Enhance Vast, Flat Surfaces"* on p. 62.

WILLIAM SKIDMORE
designs by instinct and experience. Self-taught, he has learned his woodworking skills by reading *Fine Woodworking* and books on cabinetmaking and by trial and error. His specialty is music stands, but he enjoys building larger pieces. He works as an attorney in Washington, D.C., doing most of his woodworking on the weekends in Pennsylvania (7217 Spruce Ave., Takoma Park, MD 20912). *"Uniting Two Cases in One Hutch Design"* on p. 42.

WILLIAM WHITE
has been working wood for nearly 30 years. An engineer who recently retired from IBM after a 30-year career, he now devotes most of his energy to building furniture and other woodworking projects, including designing and building his own tools and fixtures. White learned some of his skills as a machinist in the U.S. Navy, and he still employs a great deal of metalworking in his furniture. He says, however, that he now gains more satisfaction from traditional hand tools and recently sold a 6-inch jointer to buy some handplanes (35 Partridge Hill, Williston, VT 05495; 802-878-2655). *"Another Way to Lock the Cradle"* on p. 32.

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Compiled by Harriet Hodges

BY JOHN McPHEE

Horns

If someone like Daniel Boone had come into my grandparents' house and hung up his powder horn, he would have had a very hard time finding it when he was ready to leave. Their house was a Philadelphia Victorian at the edge of the city, with a vestibule that led into a kind of atrium—a squarish hall, in part a sitting room, through which other rooms opened. You might not have noticed the ruby-glass window, the coal-burning fireplace, the grandfather clock, the stairway bending around the clock, because the furniture in that most trafficked part of the house—the American box settle, the library table, the sofa, the clothespole, and miscellaneous stools—had been lovingly made with such a liberal use of cattle horns that the vestibule, atrium, and front parlor had the combined effect of a condensed stampede.

In a chair beside the arch to the dining room, my grandfather sat in the evening, reading the Evening Bulletin. The legs of the chair were cattle horns, tips down, touching the floor. There were no armrests, but behind his head and shoulders was an intricacy of multiple horns. Next to him was the library table, its two levels separated and supported by horns, its four legs concatenating so many horns that they looked like growing bananas. Across the back of the sofa in the front parlor were tier on tier of horns. In the vestibule was the American box settle with a mirror above the bench and protruding horns running up the two sides and across the top. You hung your hat, your scarf, your powder horn on the

horns. A clothespole that had horns coming out of it like spines from a cactus was just inside the atrium door.

All these pieces were made by Joseph Palmer, a farmer at Doe Run, 35 miles west of the center of Philadelphia, whose daughter Laura was my mother's mother. His farm was all-purpose, self-sufficient, with horses and cows and cannable crops, a smokehouse, chickens. Doe Run was dammed to reserve the water that turned the wheel of the mill. Joseph Palmer was, among many things, an energetic woodworker in various genres. Who knows how he became interested in horn furniture, but it was at least by 1892, when he made that Evening Bulletin chair as a wedding present for his daughter Laura and her husband, John Williamson Ziegler, who gave me the John and was called Will. Whittling mahogany, Joseph Palmer made pointy tenons to reinforce the horns from inside. The horns were from Texas, long and short. He evidently had them shipped to him, and may have obtained others locally. He was working in a tradition that reached into the Middle Ages, had some modest popularity in Europe in the mid-19th century, was shared by others in America in his time, and attracted no followers.

In the mill, Joseph Palmer also made bookboards—the hard parts of what are now called hardcover books. He sold them to Charles Ziegler, my great-uncle, who owned Franklin Bindery, and whose best customer was the John C. Winston Book and Bible Company, where my grandfather Will Ziegler was second in command. Winston was said to publish more bibles than anyone else in the country, and at the other end of their list was my grandfather's specialty, the hardcover equivalent of the newspaper extra, now known as the quickie. In 1912, he published a book on the Titanic while the bubbles were still numerous and the ice had yet to melt.

He would have been sitting in his chair, supported below and behind by two dozen cattle horns, when he read that the great ship went down. Being a publisher, he naturally kept a pair of pearl-handled .44-calibre Colt Peacemakers in a velvet-lined box upstairs, but even they, in the persistence of memory, are no match for the horns—the functional horns, the decorative horns, the functional-decorative festoons of horns.

John McPhee is the author of 24 books of nonfiction; his latest is the collection of essays Irons in the Fire *(Farrar, Straus and Giroux).*

Drawing: Robert Andrew Parker

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home furniture

Some of the pieces featured in this issue:

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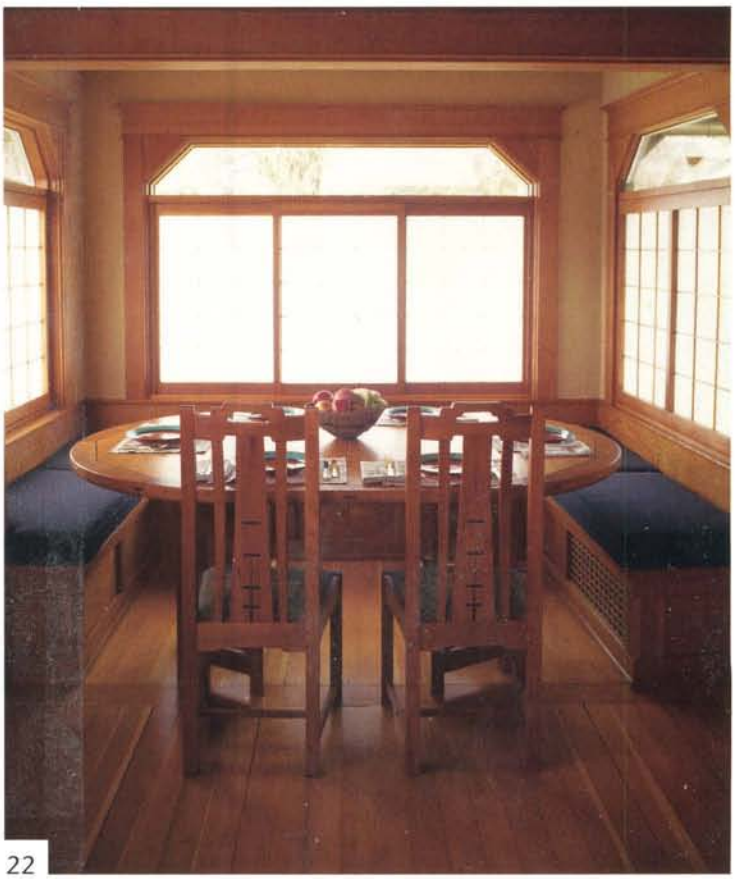

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