




The Art and Craft of Room Screens

The range of uses is exceeded only
by the design possibilities

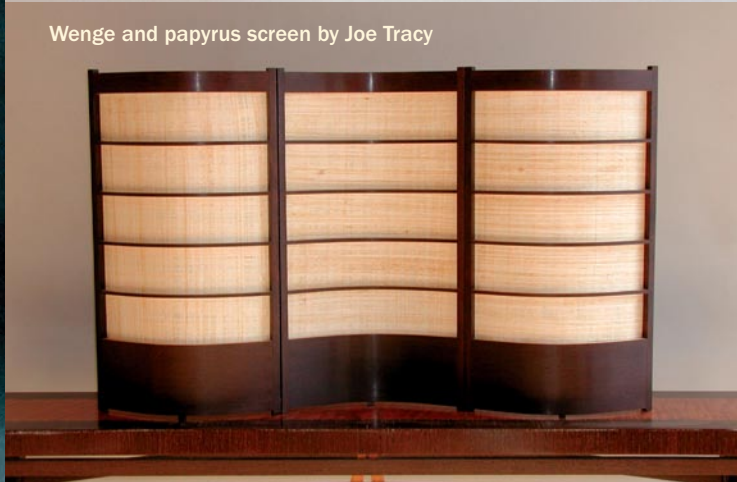
BY JONATHAN BINZEN



Chip-carved panel
screen by Craig
Vandall Stevens



Shoji door screen
by Craig Vandall Stevens



Wenge and papyrus screen by Joe Tracy

Room screens stand in a category of their own. They're not quite furniture, since you don't actively use them and rarely touch them; and they're not quite millwork, since they're freestanding and movable. Their closest cousin is the door, with which they share hinges and a frame-and-panel structure. But you can't slam a folding screen or close one against cold or noise. Lightweight and a little lonely, they are designed simply to stand there and look pretty. With the right screen, though, that's enough to transform the whole flow and feeling of a room.

Screens are particularly useful for dividing space in the large, open-plan rooms of contemporary houses. A screen might be used to carve off an area for a home office, to screen off a passageway or an entry and make a sitting area cozier, or to make a meal more tranquil and intimate by hiding the mess in the kitchen.

With its frame-and-panel format, a screen is essentially a frame waiting to be filled—with striking veneers or solid wood; with light-filtering handmade paper; with works of art on cloth, canvas, or hardboard; or with anything else that you can adhere to a

flat substrate. The screens that follow provide a sense of the wide range of materials and formats available to the imaginative screen maker.

I'll also describe the different ways to engineer a screen—single or multi-section, self-standing or with feet—and detail the range of specialist hinges for screens. Building a screen is as straightforward as making a lightweight door, but with lots more ways to display your creativity.

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Multiple uses for room screens

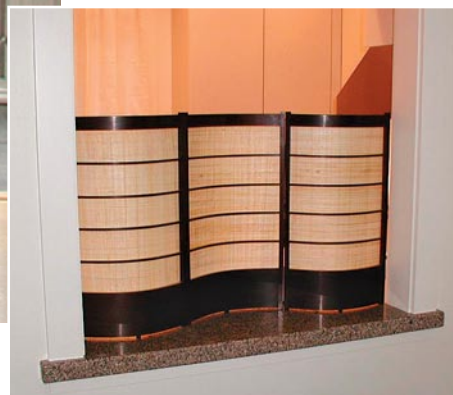
Although screens traditionally have been used to section off parts of large rooms for dedicated spaces, their two-dimensional aspect makes them a natural for screening a bright window or a cluttered area.



In front of a window. Translucent screens can block harsh sunlight or increase privacy while still admitting natural light.



Hiding a work area. A screen can create an informal home office, giving privacy and hiding computer clutter.



Screening the kitchen. This diminutive three-section screen goes in a pass-through window to hide the kitchen from the eating area.

Translucent screens

PRECISION-CUT DIVIDERS PROVIDE THE ARTWORK

Taking his cue from traditional Japanese shoji screens, Craig Vandall Stevens, a furniture maker in Sunbury, Ohio, uses softwoods such as cedar, cypress, and white pine for his screens (at left and below). These woods are light both in weight and in color; they also plane beautifully, making the exacting joinery easier to accomplish. To make these curved-gridwork doors, Stevens used one large plank of perfectly clear Eastern white pine, which yielded impeccable uniformity of color and grain throughout the piece.

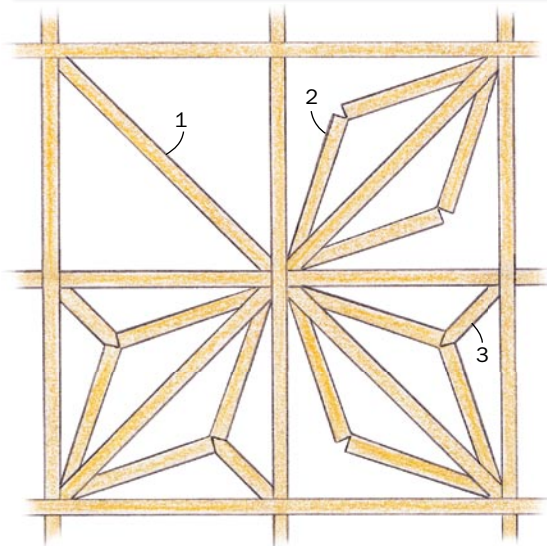
The gridwork has its own thin frame, to which the interior pieces are joined with half-laps. When the gridwork is fully assembled within its frame, the whole is press-fit into the outer frame. All the joints in the gridwork are half-laps, including those that hold the slender curving vertical members. The curves were created simply by nesting a pair of slender pieces in the same notches at the top and bottom and then separating them at the center rail.

As on most traditional shoji screens, all the parts of the frame and the grid lie in the same plane on the back so that the paper can be applied directly over all of them. For more on making a screen backed with Japanese paper, see Master Class on pp. 96-100.

Translucent patterns. With clear-paper screens, the design of the dividers provides the artwork. In this case, the thin strips of Eastern white pine are just press-fit together.

MAKING THE LEAF PATTERN PIECE BY PIECE

It is important that the squares surrounding the leaf pattern are perfectly symmetrical. The leaf parts are cut with a backsaw and the angles are refined with a handplane using shooting boards with different angles.

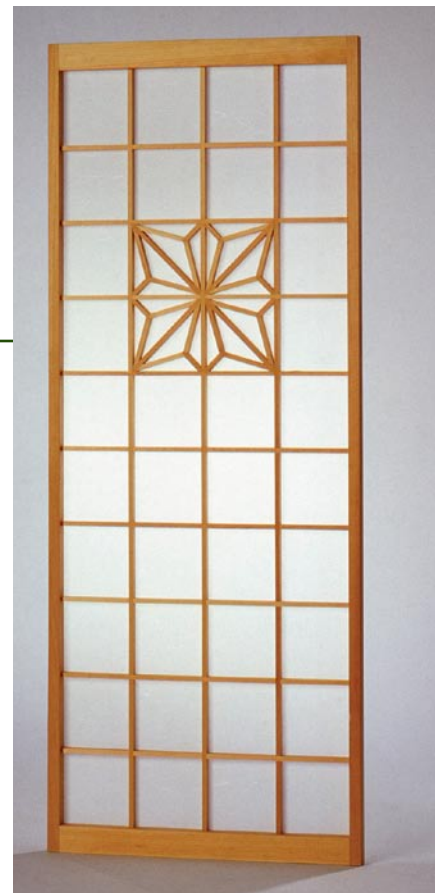


STEP 1 Cut and fit the diagonal piece first, with both ends cut at 45°.

STEP 2 Cut the second piece at 22½° on both ends, and kerf at the center to within ¼ in. using a miter box with a depth stop. Place a drop of water on the hinge and wait a few moments before flexing the cut and installing the piece.

STEP 3 Cut one end of the last piece at 45°. The angle on the other end will depend on the length of the piece cut in Step 2.

Angle to fit hinged piece.



Simple decoration, precise joinery. The leaf pattern is composed of different sections cut and planed by hand for a precise fit.

SLIDING SCREENS CAN BE THIN AND LIGHT

The south-facing wall of a client's house had an expanse of large windows to take advantage of the view. At the wrong time of day, however, the windows were a wall of glare, and at night they were a cold, black hole. Joe Tracy, a furniture maker in coastal Mount Desert, Maine, solved both problems with a pair of four-panel mahogany and paper screens. When the screens are pulled across the windows during the day, they diffuse the sunlight and present a calm, rippling pattern of slender middle rails. By night, the screens replace the blackness with a sense of enclosure and warmth. Tracy also made a pair of custom floor lamps to stand against the window wall and illuminate the screens from behind at night. Diffused through the rice paper, the lamplight creates a warm, soft glow across the whole row of screens.

To make the wavelike middle rails, Tracy glued up shop-sawn $\frac{1}{16}$ -in. mahogany veneers between bending forms made from medium-density fiberboard (MDF). He laminated wide pieces of veneer and then ripped them to the rail width after the glue had cured.

Tracy's screens can be pushed completely out of the way and folded up accordion-style. He didn't want them to look too imposing when they were folded,



so he made them thinner than his typical standing screens. Each package of four panels is only 4 in. thick when folded.

Tracy could get away with light construction because the screens are suspended and do not have to support their own weight. He hung the screens using sliding-door hardware from Häfele, which included tracks in the ceiling and floor. The screens are suspended from rollers in the upper track and guided by Delrin pins that run in the lower track. The hardware works well, but it's essential to have a consistent ceiling height.

Shut out the night.

The tracked screens, illuminated from behind, replace a cold expanse of dark window with a warm, gentle light.



PAPYRUS PROVIDES BOTH TEXTURE AND TRANSLUCENCE

Tracy's wenge and papyrus screen, made to stand on a counter pass-through between a kitchen and a dining room, is only 20 in. tall, but it employs a design that applies just as readily to full-size screens.

He selected papyrus, a paper made from hand-pounded plant fibers, for its color and texture. Used by itself, papyrus would have been difficult to work, so Tracy applied the papyrus to sheets of self-adhesive styrene (www.lampshop.com), a translucent lampshade material that is washable and flexible and can serve as a strengthening substrate for a range of fragile materials.

Papyrus screen. *When not in the kitchen pass-through, this screen can be displayed on a table. The panels are made from papyrus adhered to translucent styrene.*

Solid panels display materials and artwork



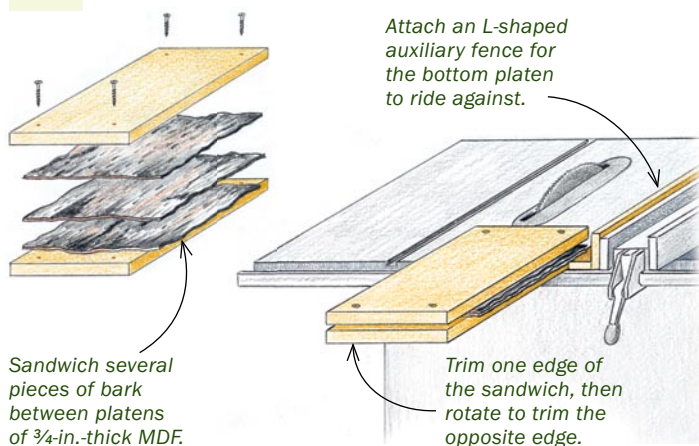
A BIRCH-BARK SCREEN

After discovering some stunning curly redwood in Oregon and buying some birch bark from a Native American canoe builder in Ottawa, Tracy found a way to display them both as panels in a mahogany-framed screen.

Working with birch bark is no more difficult than dealing with wavy veneer. If the bark tends to curl, it can be flattened by covering it with a wet cotton towel and pressing it with a hot steam iron. To make the panels, Tracy adhered the birch bark to 5mm lauan plywood using a vacuum press and urethane glue. He glued five pieces of bark to each side of a 5-ft.-long piece of plywood. To keep the pieces in position on the plywood during glue-up, he stapled the bark at the edges; after gluing, he removed the staples. In the veneer press, he glued one side of the panel at a time. When gluing the second side, he protected the downward-facing bark with a piece of foam carpet padding.

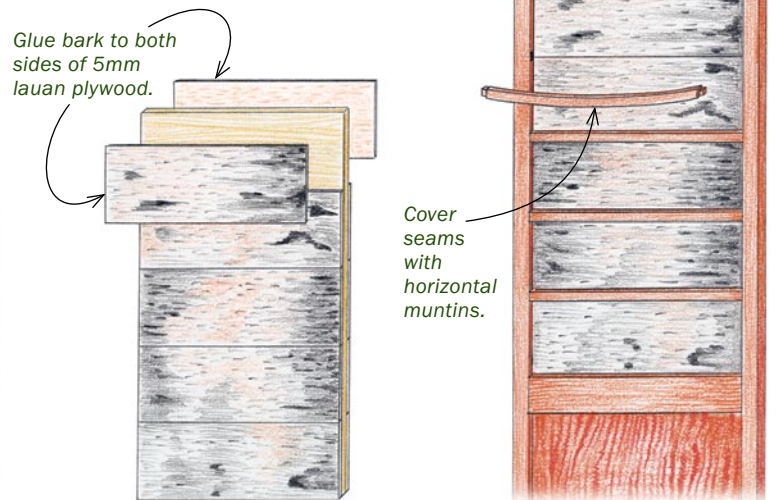
STEP 1 TRIM THE BARK TO SIZE

1



STEP 2 MAKE AND INSTALL THE PANEL

2



WHERE FURNITURE MEETS FINE ART

Screens offer inviting frames for any sort of artwork, and William Laberge, a Vermont cabinet-maker specializing in Arts and Crafts designs, capitalizes on that by collaborating with painter John Sherman. The canvases are mounted on pieces of 1/4-in. Masonite and finished with several coats of polyurethane.

Laberge builds his screens from quartersawn oak and joins the stiles and rails with pinned mortise-and-tenon joints. The solid-oak panels at the base of the screen are captured in a groove, but the painting panels are set in a rabbet and secured with wood stops nailed in place.

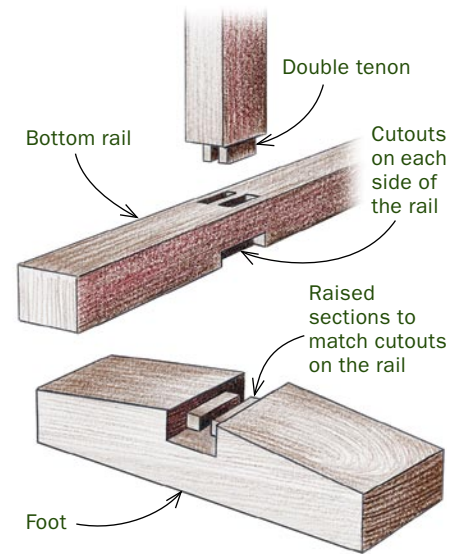




FOOTED SCREEN DISPLAYS CARVINGS

An excellent chip carver, Stevens has made a number of footed screens with solid panels that offer him a broad canvas for carving. Despite their solid appearance, these screens are very light, weighing only about 25 lb. Stevens keeps the weight down by making the solid-wood panels only $\frac{1}{4}$ in. thick. In this screen, the upper panel is made up of three separate boards that are held in register with splines but expand and contract independently.

Because there are so few elements to the design, sensitive proportioning is paramount. To zero in on the ideal dimensions, Stevens often will build a full-scale mock-up with a pencil sketch of the proposed carving on a large sheet of kraft paper, which is pinned into the frame.



A SPECIAL JOINT FOR A FOOTED SCREEN

Because the stile enters the bottom rail directly above the foot, a special double-purpose joint is required.

Hinges suited to screens

Screen hinges come in two primary types: single acting, which allow adjacent panels to be folded in only one direction; and double acting, which are essentially double-jointed so that adjacent panels can be folded together front to front or back to back.

The advantage of double-acting hinges is that they enable you to set up a screen in a variety of configurations without regard to hinge direction. If you don't need that flexibility, or if the screen will be hung from a track in the ceiling, you will find single-acting hinges perfectly suitable.

SINGLE-ACTING HINGES

Sized appropriately, butt hinges of nearly any type intended for doors will serve well on a screen.

Concealed hinges are mortised into the edge of the panels and disappear when adjacent panels are open fully. They range in size from the light-duty barrel type to the medium- and heavy-duty plate type. Soss makes a full line of them.



DOUBLE-ACTING HINGES

Four-screw double-acting hinges are the most common type of screen hinge. Typically made of steel, they come plated in a number of finishes and range in price from \$1 to \$4 per hinge. Three hinges at each joint should work fine for light screens or those not subject to frequent folding.

Six-screw and ten-screw double-acting hinges stand up to much heavier duty, but come at a big jump in price, typically ranging from \$8 to \$22 per hinge. William Laberge buys stainless-steel 10-screw hinges from Whitechapel at \$19 each. His screens weigh about 120 lb., and he's had trouble with lighter-duty hinges deforming under load.



SOURCES OF SUPPLY

HardwareSource
877-944-6437
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Whitechapel Ltd.
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