WOODWORKER'S JOURNAL downloadable plans:

"America's leading woodworking authority"™

In this plan you will be getting:

- Step by Step construction instruction.
- A complete bill of materials.
- Exploded view and elevation drawings.
- How-to photos with instructive captions.
- Tips to help you complete the project and become a better woodworker.

To download these plans, you will need **Adobe Reader** installed on your computer. If you want to get a free copy, you can get it at: **Adobe Reader**.

Having trouble downloading the plans?

- If you're using Microsoft Internet Explorer, right click on the download link and select "Save Target As" to download to your local drive.
- If you're using Netscape, right click on the download link and select "Save Link As" to download to your local drive.

Frank Lloyd Wright Lamp

$7.95

WJ136

Published in Woodworker's Journal "From Start to Finish: Quality Plans and Techniques for the Home Woodworker"

Frank Lloyd Wright Lamp

This table lamp is modeled after a print stand designed by the master architect. Although its size allows you to build it from leftover material, its design is true to the original and evokes the best of the Prairie School.

With any artistic or architectural movement, pieces of furniture come to evoke its essence. Examples are the Stickley Morris chair, representing the Arts and Crafts period, or just about any piece by Ruhlmann representing the Art Deco movement. Within the Prairie School, a number of pieces, mostly by Frank Lloyd Wright, would qualify as hallmarks of the movement. This lamp is based on one such classic: Wright's Japanese print stand.

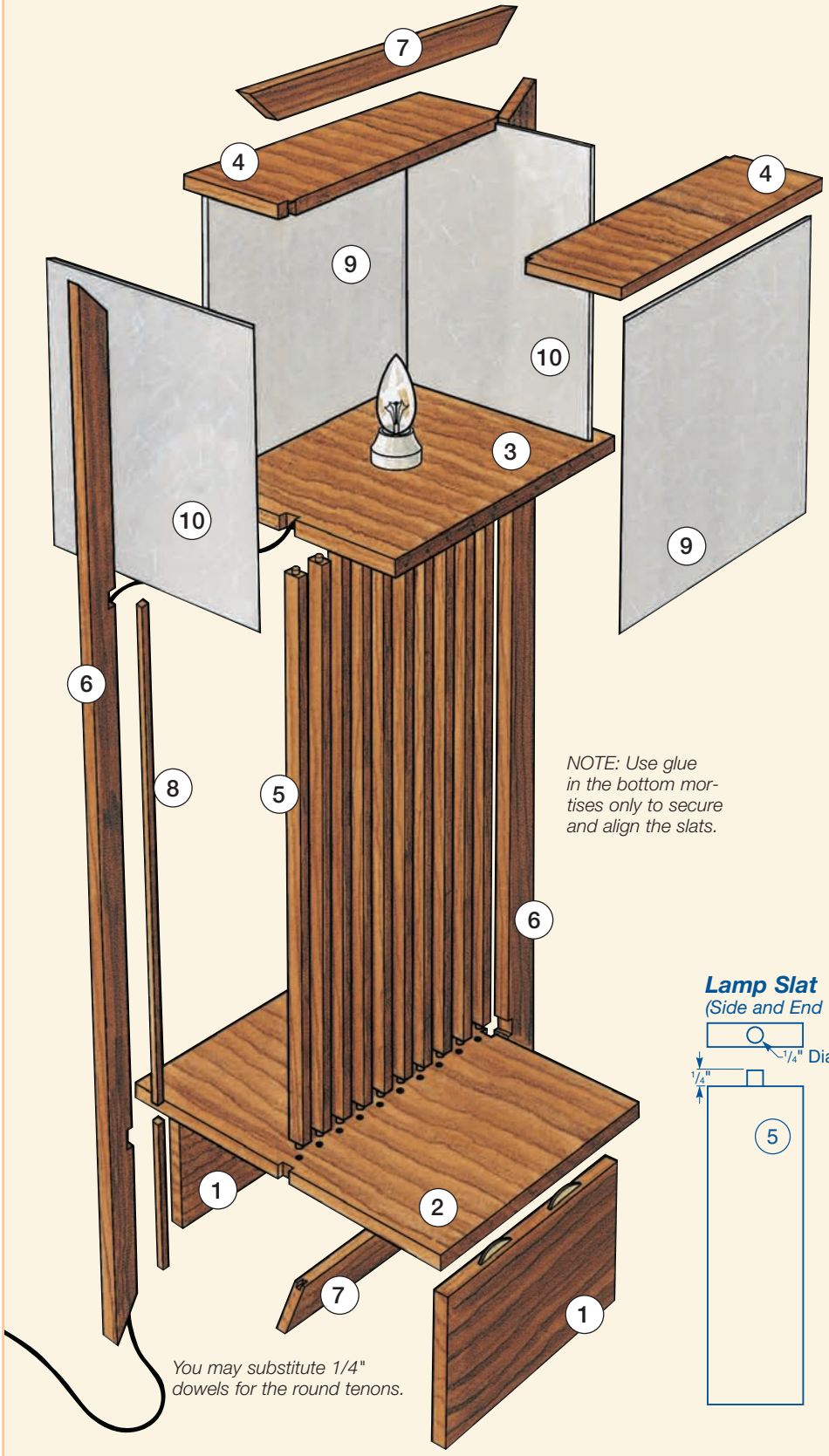
Wright was a major collector and dealer of Japanese prints, and he designed his original print stand to display some of them. Variations of his print stand show up many times throughout his career; there is even a floor lamp version.

Mike McGlynn, one of our contributing editors, built this table lamp for a client who has a long-standing affection for Wright and his furniture style. Mike admitted that the hardest part of this design was figuring out the lamp part and what to use for a shade. In the end, he used Lumacite™ material left over from an interior shoji style door he built previously. Lumacite is an acrylic material that comes in a number of different patterns; it's also quite expensive. As an alternative, you can also use Plexiglas™ with rice paper glued to the outside and achieve a similar result.

One nice thing about this lamp is that it is made out of a lot of small pieces. You may be able to make the entire thing out of scraps you already have in the shop.

A down side to being constructed with pieces this small is they will want to warp every which way (especially the slats). Any warping of the slats will throw off the symmetry of the lamp. To help prevent warping, and for a pleasing grain pattern, choose pieces of wood that are as close to rift or quartersawn as possible.

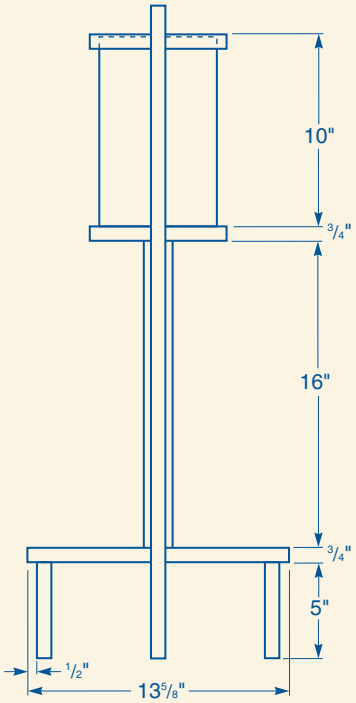
Lamp Exploded View



You may substitute 1/4" dowels for the round tenons.

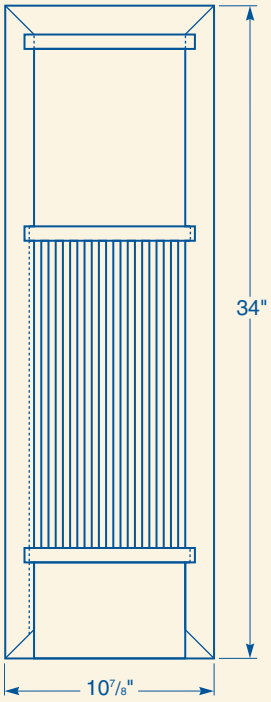
NOTE: Use glue in the bottom mortises only to secure and align the slats.

Lamp Elevation
(Front View)

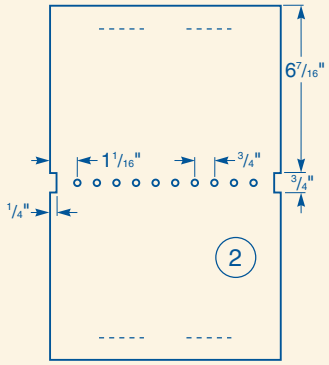


Lamp Slat
(Side and End View)

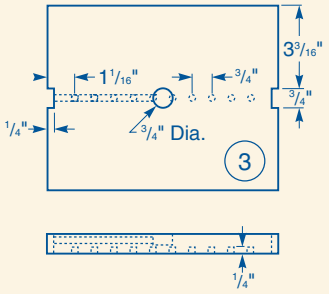
Lamp Elevation
(Side View)

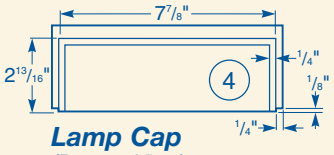


Platform
(Top View)



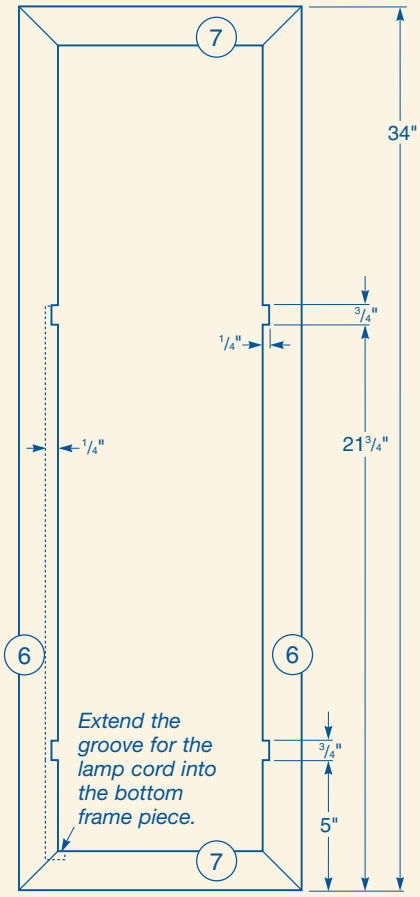
Lamp Base
(Top and Side Views)





Lamp Cap
(Bottom View)

Frame Assembly
(Front View)



The author uses 3M packing tape to "clamp" the mitered corners of the frame assembly.

MATERIAL LIST – *Lamp*

		T x W x L
1	Legs (2)	3/4" x 5" x 7 7/8"
2	Platform (1)	3/4" x 8 7/8" x 13 5/8"
3	Lamp Base (1)	3/4" x 7 1/8" x 8 7/8"
4	Lamp Caps (2)	3/4" x 8 7/8" x 3 5/16"
5	Slats (10)	3/8" x 1 1/2" x 16 1/2"
6	Frame Sides (2)	5/8" x 1 1/2" x 34"
7	Frame Top & Bottom (2)	5/8" x 1 1/2" x 10 7/8"
8	Wire Cover Strip* (1)	1/4" x 1/4" x 24"
9	Shade Front & Back (2)	3/16" x 7 7/8" x 9 7/8"
10	Shade Sides (2)	3/16" x 6 1/8" x 9 7/8"

**Trim to fit.*

Getting Started

Once you've selected your wood, mill the pieces oversize, let them acclimatize to your shop for a few days, then mill them to final dimension. With the spindles, be extra careful and use three steps, with two adjustment and flattening sessions. Start with several more spindles than you'll actually need, because there will probably be a few that will develop twists or warping and won't be acceptable here.

Due to Mike's "use-of-scrap methodology" here, the legs, platform, lamp base, and lamp caps (pieces 1 through 4) are all made of glued-up stock. Glue up one length of material, plane it down, sand the faces and cut it into the six respective pieces. This also assures that the grain and color will be well matched on all the parts.

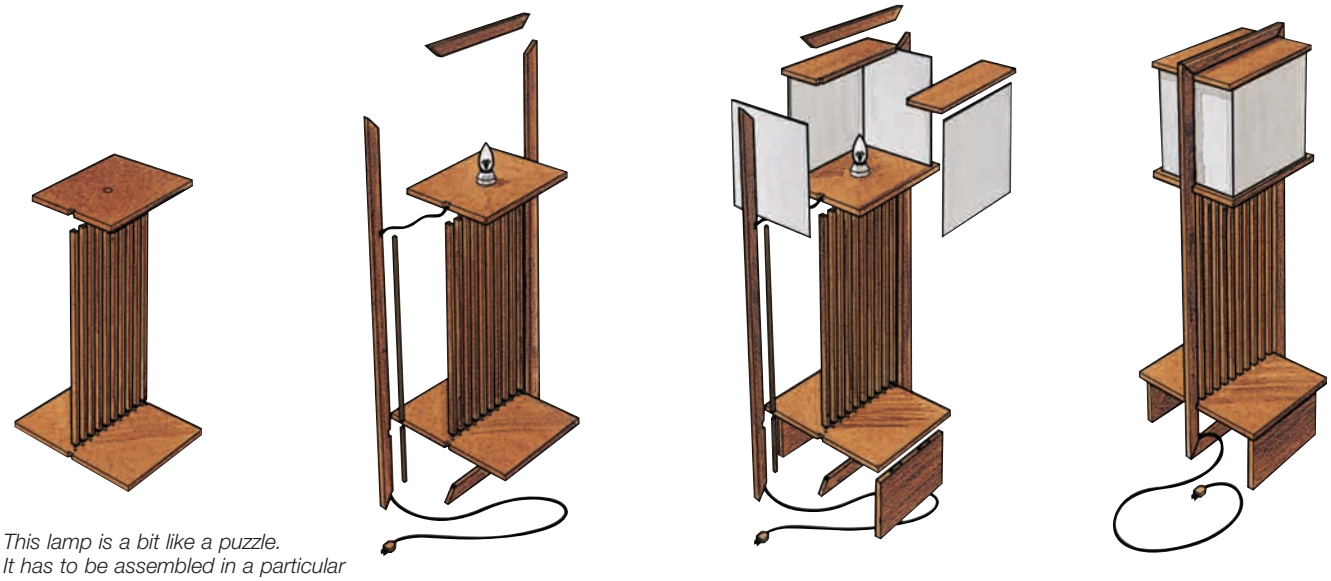
After milling the pieces to size, use water to raise the grain and sand them to 220 grit when the surfaces dry. As you are breaking the edges, it is important to keep in mind that some edges, such as the top of the legs, are not rounded over in any way. Mark the sharp edges, if need be, to avoid sanding where you shouldn't.

Building the Center Section

This lamp is a bit of a puzzle in that it has to be assembled in a particular order for everything to come together properly. The first step is to build the center section.

Before you start the assembly, several joints need to be cut: the slat tenons, the mortises (and a lamp mounting hole) in the platform and lamp base, and the half-lap joints on the platform and lamp base. In addition, the lamp base needs to be drilled for the cord. See the *Elevation Drawings* on page 94 for the construction details.

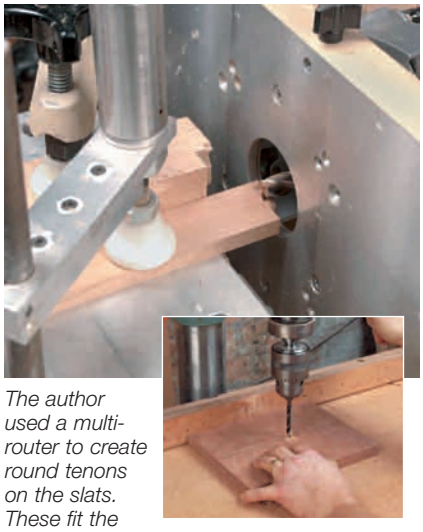
With regards to the slats (pieces 5)



This lamp is a bit like a puzzle. It has to be assembled in a particular order for all the pieces to come together correctly.

and their tenons, Mike machined the 1/4"-long, round tenons on the ends of the slats with his multi-router machine. A round tenon works well because its corresponding mortise is simply a drilled hole. An alternative here is to make floating tenons from 1/4" dowels.

After cutting your tenons, lay out and carefully drill the platform and lamp base for their corresponding mortises. For appearance's sake, keep this in mind: on the platform the holes go in the good side, and on the lamp base they go in the lesser side.



The author used a multi-router to create round tenons on the slats. These fit the holes drilled into the platform and base.

Cutting the half-lap joints is the next step. These joints are exposed, so it is important to take your time laying out and cutting them. It's imperative to have a piece of the frame material handy when doing this step. To prevent blowout, cover the joint area with masking tape, then mark out the joint on the tape using a sharp pencil. Starting in the center of the joint, take multiple passes on a table saw, using your miter gauge with a fresh scrap fence attached to further avoid grain tearout. As you get close to your edge markings, check the joint with the frame material. By taking fine passes, you'll get a tight, sliding fit.

One of the cool design details of this lamp is how the cord is hidden. Drilling a long hole like this through the long dimension of a board is not for the faint of heart. As can be seen from the *drawings*, this hole is slightly offset from the center to avoid the tenon holes. Mike used a 1/4" x 10" auger bit while holding the piece on-edge in a vise. Take your time: drilling through the face at this point may make you say things that require a trip to the confessional.

Assembling the center section is another exercise in patience. To ease their insertion, bevel the ends of all the tenons with sandpaper, and dry-fit them before attempting final assembly. Then put a drop of glue in each of the platform mortises and insert the slat tenons into the mortises. Square up each slat before going on to the next one.

Don't glue the top end tenons; the glued bottom joints provide all the alignment necessary. Installing the lamp base onto the tenons is quite difficult; you have to line up all the tenons almost simultaneously. Start at one end and slowly work to the other until all the tenons are engaged in their holes. Then simply tap the base home. Once you've completed the center section, attach the legs to the platform with biscuits.

Assembling the Frame

To begin the frame (pieces 6 and 7), cut all four miters on the upright frame pieces. Laying out and cutting the half-lap joints in the uprights is the next step, and this is where having the legs already attached comes in handy. Set the lamp on a flat surface, insert the uprights into the half-laps and, with the bottom miter touching the surface, carefully scribe the half-laps onto the uprights. Then form the joints carefully on the table saw.

The second half of the hidden wire process requires routing a groove down the middle of an upright. This groove extends from the bottom mitered end to the top edge of the top lap joint (see *drawings*). MIll a piece of stock (piece 8) to hide the wire in the groove.

Before the uprights can be installed on the center section, the cord must be installed and hidden. Mike used 10' of standard 16-gauge lamp cord. Lay the wire in the groove (make sure 12" stick out of the top) and use Super Glue to secure the covering strips (cut it into two pieces to avoid impinging on the lap joints). When the glue cures, sand the filler strip flush.

Threading the wire through the lamp base (piece 3) is the only tricky part about attaching the uprights. Place a dab of wood glue on each lap joint and glue the uprights in place with a couple of bar clamps. Take your time and carefully fit the frame's top and bottom miters. Prior to gluing in place, cut a groove in the end of the bottom frame member that meets the cord so it can exit easily.

Find that Packing Tape

After years of trying all sorts of miter clamps, Mike still prefers 3M packing tape for assembling miter joints. It has a bit of stretch to it that snaps back once it's applied, giving the tape a helpful "memory" for drawing joints tightly closed. Put glue on the miters and, with two to four strips of tape, close the joints. When the glue dries, scrape or sand away any glue squeeze-out.

Construction of the shade (pieces 9 and 10) is quite time-consuming. In order for the shade to look uniform all the way around, you should miter and glue the pieces together, as described in the *sidebar* above.

MAKING A LUMACITE SHADE

Cut the shade pieces to size and miter the joining edges using a chamfer bit on your router table. Use 3M packing tape to miter-fold the shade together. Align the pieces, apply Super Glue accelerator to the joints and roll the shade into a cube. Apply a last bit of tape at the open corner. Place two wooden frames (to hold the lamp shade square as the glue cures) on the ends of the cube. Now apply Super Glue to each corner joint from the inside (with that joint pointing down). Allow the glue to cure for one minute and move on to the next joint.

Cut the shade pieces to size on the table saw and miter their edges on the router table.

Miter-roll the shade pieces into a cube using 3M packing tape as your hinge. Tape the last open joint closed, then apply a bead of Super Glue along the inside of each joint to bond the parts.

The last step is to machine the retainer grooves in the shade caps, as shown in the *Elevation Drawings*. Rout them in several passes on the router table. Fit the caps carefully so that when they are in place the shade can't move.

Prior to finishing, go over the lamp in a meticulous fashion, easing edges and looking for any missed glue squeeze-out. Sand everything up to 220 grit, clean off all the dust and apply your choice of finish.

The last order of business is to install the socket, switch and two-prong plug. Mike used a basic, compact, screw-on porcelain socket. The switch is a standard in-line rocker style.

This lamp is a great introduction to the elements of Prairie School style and at the same time requires a pretty high level of attention to detail to get it to turn out right. Have fun!